PRACTITIONER PERCEPTIONS AND EXPERIENCES WITH EVIDENCE-BASED PRACTICE IN THE PRACTICE SETTING

by

STEPHANIE J. HAMM

Presented to the Faculty of the Graduate School of

The University of Texas at Arlington in Partial Fulfillment

of the Requirements

for the Degree of

DOCTOR OF PHILOSOPHY

THE UNIVERSITY OF TEXAS AT ARLINGTON

May 2008

ACKNOWLEDGEMENTS

This endeavor could not have been undertaken on my strength alone. I first thank God. My faith was and is a constant strength to me.

Scott, Madison, and Landon, your encouragement, sacrifices, love, support, prayers, poems and notes have been immeasurable. You all and your presence in my life make it all truly worth the work it takes to succeed. Words are not enough.

I thank my mother for the hours of listening to my groaning, and for supporting me, and nagging me about taking care of myself!

For the help, camaraderie, fun, and friendships: my amazing cohort. Ebony, Sachi, James, Dean, Karla, & Sherry -- Thank you all so much.

My friends far and wide who prayed for me and put up with my three-year negligence, and yet continued to love me: Jaunitta, Joni, Lisa, Cherin, Frankie, Carrie, and others – You all are the best.

To Abilene Christian University for supporting and believing.

Dr. Nancy Rowe's data entry and analysis help was always timely. Thank you!

And lastly, to my committee: Drs. Hegar, LeGrice, Lehmann, and Woody for making me better in *several* ways. Dr. Elliott has given me a perfect blend of high standards and encouragement! Thank you for walking with me.

April 9, 2008

ABSTRACT

PRACTITIONER PERCEPTIONS AND EXPERIENCES WITH EVIDENCE-BASED PRACTICE IN THE PRACTICE SETTING

Stephanie J. Hamm, PhD

The University of Texas at Arlington, 2008

Supervising Professor: Doreen Elliott

Evidence-based practice (EBP) in the profession of social work is a current concern in the response to a need to be accountable to the profession, clients, and the broader society. This approach to practice, introduced by the medical profession, includes researching and seeking research on interventions for practice that have been supported in previous findings. The purpose is to create the opportunity to offer the best practice interventions to client systems, in micro or macro practice. The current focus in social work is the question of implementation into practice and higher education, if

indeed, EBP is a shift in the profession. Part of EBP is the utilization of the process of EBP, as incorporated from Sacket et al (2000), by Gambrill (2006). This five-step process includes formulating a practice question, seeking evidence of best interventions, evaluating the evidence, evaluating the implemented intervention, and disseminating findings. Part of the discussion of integrating EBP into the field of social work is discovering what practitioners have to say about EBP and what is needed in order to create an environment for practitioners to utilize EBP.

This study is an investigation into practitioner perceptions and experiences of EBP. A survey questionnaire was given to practitioners (n=140) in a metropolitan area of Texas. The survey included questions and subscales for the purpose of learning practitioner attitudes, EBP skill level, level of training, and level of EBP Use. Using *EBP Use* as a dependent variable, statistics were run that reveal correlations of the variables to EBP Use. Linear regressions were run in order to predict professional characteristics of EBP practitioners. Two important findings were that time limitations emerged as the most important barrier to EBP Use, and that the single most significant predictor of EBP Use, over and above all others, is EBP skill level. These, among others have important implications for social work practice, research, policy, and education.

TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

Figure Page

LIST OF TABLES

CHAPTER 1

INTRODUCTION AND STATEMENT OF THE PROBLEM

Introduction

Outcome assessment has become an essential practice in higher education. The profession of Social Work is not without its own evolving philosophy about what is preferred practice. Just as in higher education in general, Social Work has adopted a view that the best practices for equipping students for competent practice must be employed. In order to identify the best practices, research that provides outcome effectiveness of social work interventions must be conducted. And just as higher education is deciding that outcome assessments are the best way of knowing what approaches work in the colleges and universities across the country; the field of Social Work is making judgments about whether activities in Social Work education are working, mainly, teaching evidence-based practice (EBP). EBP is the result of research in determining if a given intervention is helpful for the particular problem or challenge addressed.

Social work's evolving concern with research in practice, specifically addressing the practitioner's effective treatment of clients' problems, is included in this paper. Also included is a history of higher education's evolving concern for accountability and effectiveness, which addresses whether schools are effectively teaching what students

need to learn. These matters converge in evidence-based practice as the field addresses social work's ability to aid society, and effectively train social workers to practice in a way that is accountable to that society. With evidence-based practice, there are debates and challenges to implementation. Social work education is in a position to fill in some of the gaps to implementation. That assertion, as well as the debates, a review of current studies, and implications for the field, is also addressed in this study. This paper outlines a study investigating practitioners' experiences and perceptions of evidence-based practice. With this new information, social work education will gain insight for the training of practitioners.

Defining Evidence-Based Practice

Evidence-based practice (EBP) has been defined by many scholars. It includes the practice of considering systematically collected evidence that supports an intervention before actually utilizing an intervention with the client system. The main components are seeking social work interventions and practices that are supported in research (Rosen, 2003), finding research used to inform practice that is empirically based and not merely theoretical, i.e. studies that were scientifically completed, that addressed a specific issue (Rosen, 2003), and utilizing research that is rigorous enough to be duplicated (Howard, McMillen, & Pollio, 2003). EBP has come into social work via the medical discipline and was introduced by Gordon Guyatt from MacMaster University in Canada, and advanced by David Sackett only ten years ago (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). According to Sackett et al, EBP is practiced in medicine in five steps. They are as follows:

1. converting the need for information (about prevention, diagnosis, prognosis, therapy, causation, etc.) into an answerable question.
2. tracking down the best evidence with which to answer that question
3. critically appraising that evidence for its validity (closeness to the truth), impact (size of the effect), and applicability (usefulness in our clinical practice)
4. integrating the critical appraisal with our clinical expertise and with our patient's unique biology, values and circumstance
5. evaluating our effectiveness and efficiency in executing steps 1-4 and seeking ways to improve them both for next time (p. 3-4).

Gambrill (2006) has applied these steps to social work practice and in so doing, expands the meaning of each step in the following:

1. Converting information needs related to practice decisions into well-structured answerable questions;
2. Tracking down with maximum efficiency, the best evidence with which to answer them;
3. Critically appraising that evidence for its validity, impact (size of effect) and applicability (usefulness in practice);
4. Applying the results of this appraisal to practice-policy decisions. This involves deciding whether evidence found (if any) applies to the decision at hand (e.g., is a client similar to those studied? Is there access to

services described?) and considering client values and preferences in making decisions as well as other application concerns;

5. Evaluating our effectiveness and efficiency in carrying out steps 1-4 and seeking ways to improve them in the future (p.4).

Additionally, Gambrill (2003) and Rosen (2003) argue that EBP must include the client's individual circumstances in the decision process. Gambrill also emphasizes transparency in sharing with the client system what interventions are available and supported in research, if any; as well as the worker's genuine limitations in utilizing the intervention best supported. Gambrill referenced Sackett, Straus, Richardson, Rosenberg, & Haynes (writers in evidence-based medicine) in stating that evidence-based decisions must be made in tandem with the practitioner's acquired professional knowledge and the client system's values and circumstances, as indicated in the steps. Glasby & Beresford (2006) also suggest decisions about practice must take into consideration the research, as well as "practice wisdom" and the client's "lived experience" (p. 281). Decisions are made in terms of the most appropriate and most attainable or feasible evidence, as the "best" may not be best for that client; and the "best" may not be feasible in practice.

An important distinction must be made as there are two terms being used in the literature representing different ideas: evidence-based practice (EBP) and Evidence-informed practice. EBP is the process described above of conducting empirically-based practice research. The term is often used interchangeably with research-based or empirically-based practice. Evidence-informed practice and education refers to using

evidence in such a way that it is part of decision-making, but not foremost or implemented without using the five-step plan. There is also another term, evidence-based practices (EBPs), which are practice guidelines or treatment manuals such as those found on the North Carolina Evidence-Based Practice Center website, resulting from an EBP approach (Gambrill, 2006). These are step by step protocols on evidenced-based interventions, developed by organizations such as the American Psychiatric Association, the American Association of Applied and Preventive Psychology, the Society for Social Work and Research and NASW (Thyer, 2004). They combine best research with expert opinion in determining assessment and intervention course of action for a given presenting problem (Kirk & Reid, 2002). Defined by Rosen & Proctor (2003, p.108) as "a set of systematically compiled and organized statements of empirically tested knowledge and procedures", the purpose of practice guidelines is to aid practitioners in a way that allows them evidence-informed practice, without the difficulties of doing their own research, a challenge discussed in a following section of this paper. This project's purpose is to address EBP. While there is literature in the field on EBPs (see Rosen & Proctor, 2003; Thyer, 2004), it is the EBP process that is under review here. Proctor (2006), in a paper prepared for the Improving the Teaching of Evidence-Based Practice Symposium in Austin, Texas, described the process:

> Whether at the direct service, management, community, or policy level, practicing on the basis of evidence requires that practitioners identify practice problems, questions or issues that can be informed by research; identify the best available evidence relevant to those issues; critically evaluate the goodness,

> generalizability, and currency of the evidence; implement the best available evidence-based practices in conjunction with professional judgment and in concert with the wishes, values, and needs of the client or client system; and evaluate the implementation and effects of the evidence-based practice (p. 4).

In short, EBP refers to a process of making intervention decisions based on the client system, professional judgment, and a thorough probe into the research for the purpose of accessing an intervention that is best supported in research (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000). From there, critical analysis is used to evaluate its appropriateness for the current situation and resulting effectiveness.

Defining Evidence

One cannot define EBP without discussing the question of what constitutes "evidence". In examining research on an intervention, randomized controlled trials (RCT) that support an intervention are considered the highest form of evidence because of its strong internal validity (Zlotnik & Galambos, 2004). However, Zlotnik and Galambos mention that RCTs have limited generalizability in real world practice. Additionally, RCTs can not be located for many interventions as it may not be the most effective or appropriate way to gather data. Gray & McDonald (2006) consider this strict adherence to positivist research to be too limiting. For this reason, evidence can also include quasi-experimental and non-experimental group designs, as well as single system designs and qualitative studies. In terms of "best" evidence, it may be that a descriptive, qualitative study is the most appropriate for a given client situation (Payne, 2005). There is concern; however, that some will conclude that any available

information is good evidence. Gambrill (2003) cautioned that practitioners and clients will not have access to effective interventions, if researchers continue to utilize inadequate rigor. Rosen (2003) argues that "to the extent available and appropriate, social work practice should be guided by systematically collected and tested evidence" (p. 189). Gambrill and Rosen also argue that much of the evidence is inappropriate in that the questions addressed are not the questions being asked by practitioners and clients. Gambrill (2003) further asserts some documented claims of evidence are inflated in terms of its ability to intervene.

Worth noting, is the use of a statement for documenting RCTs called the Consolidated Standards of Reporting Trials Statement (CONSORT). It is used for the complete reporting of research so that studies can be replicated and appropriately used (CONSORT, 1996). This reporting guide includes a checklist of what must be included in a research report, as well as a participation flowchart of the research study. For example, items include introduction, methods and statistical methods and results, to name a few. It also includes "adverse events", generalizability and "overall evidence". The flowchart aids researchers in reporting the number of participants in and throughout the study. A critical appraisal of CONSORT found that the statement lacks implementation reporting (Mayo-Wilson, 2007). Including implementation information would greatly increase a practitioner's ability to replicate the study and enhance generalizability. Additionally, TREND, the Transparent Reporting of Evaluations with Nonrandomized Designs (TREND, 2004) has been established. TREND was designed as a reporting guide to be utilized for the dissemination of nonrandomized studies, such

as qualitative and quasi-experimental designs (Des Jarlais, Lyles, & Crepaz, 2004). This reporting tool gives more attention to interventions and implementation methods used. This document is important to the process of accessing evidence-based interventions as most studies within the social work profession are nonrandomized because of the nature of the science and the studies. The use of CONSORT and TREND provides overall accountability of research rigor and dissemination. Related is a problem of researchers reporting in such a way that the reader misunderstands a study and in turn concludes an intervention was effective when, in fact, it may not be; as in the 2007 study by Rubin & Parrish (2007a). They found after examining peer-reviewed journal articles from well known research journals in social work (n=138) that 70% of those used non-causal designs and that of those, 60% made some comment that could be misinterpreted. (Dr. Rubin admits to being one of those authors!)

Insights from informants such as the Cochrane and Campbell Collaborations, and the Center for Evidence-Based Social Services (CEBSS) have been helpful in determining appropriate approaches based on rigor. Systematic reviews, such as those found in the Cochrane and Campbell Collaborations are reviews of evidence retained from mostly RCTs, but other sources are utilized as appropriate (Cochrane Collaboration, 2007). The Cochrane Collaboration is updated regularly and focuses on health care. It is the Campbell Collaboration, established in 2000 that focuses on social science knowledge and interventions related to social work. (Campbell Collaboration, 2007). CEBSS is managed by the University of Michigan and has a wealth of information about EBP. In terms of evidence, this website informs that authoritative

knowledge represents the lowest level of evidence and that systematic reviews are of value in determining good evidence (CEBSS, 2007).

In a 2005 study, Rubin & Parrish (2007) surveyed deans and faculty from schools of social work across the country (n=973) to gather respondents' to comment on their definitions of evidence. Interestingly, 93.6% of the respondents considered experiments and quasi-experiments to be evidence; but surprisingly, almost half (41%) considered pre-post test designs without control group to be evidence, and over half (51.5%) considered descriptive qualitative studies to be evidence. Rubin & Parrish fear that students of EBP will begin to assume any evidence is good evidence and therefore be unable to best serve their clients, or discontinue using the EBP process altogether.

Humphries (2003) argues that evidence can include several types of research. She posits that strict adherence to the same quantitative, positivistic research is reductionistic and cannot address the "messiness of practice" that is social work intervention (Humphries, 2003). She agrees with McNeill (2006) that one cannot assume social science research operates under the same guidelines as natural science research, where there is a different level of objectivity involved. Therefore, evidence can and should include well-done participatory studies that gather the rich data that mirrors what practitioners see in their client systems. It is often this kind of research that allows practitioners to address the unique challenges that are realities for clients such as gender, ethnicity, sexual orientation and the interactions among these realities. Indeed, basing evidence only on quantitative research, however many times a study is replicated, can prove to be redundant, but not necessarily provide more or helpful

information (McNeill, 2006). Many types of evidence, used together, are likely to provide the most comprehensive information for practitioners.

Regardless of the type of research, there is an established understanding concerning what findings are evidenced as good and satisfactory. The APA's Society of Clinical Psychology established a task force to judge good evidence for a range of psychological disorders. The criterion for "well established and empirically validated" is two or more rigorous studies that support the intervention. What are termed "probably efficacious", are those interventions that have had one supportive rigorous study done by one researcher (Rosen & Proctor, 2003). For the field of social work, many of the challenges for which practitioners need assistance may have only reached a "probably efficacious" level of evidence because so little research has yet to been done in the many areas of casework in which practitioners find themselves. Some writers in EBP have enlisted a hierarchy of evidence, such as in the Guide for Child and Welfare Administrators on Evidence-Based Practice (Guide for Child Welfare administrators on evidence Based practice, 2005) and the Guide to Effective Care in Pregnancy and Childbirth (Enkin, M., Keirse, M.J.N.C., Neilson, J., Crowther, C., Duley, L., Hodnett, E., Hofmeyr, J.,2000)., among others (see Gambrill, 2006; Glasby & Beresford, 2006; Rubin & Parrish, 2007). This kind of information is helpful to practitioners and educators for locating better practices and can be accessed via the Cochrane and Campbell Collaborations.

Defining the Problem

The emergence of Evidence-Based Practice (EBP) has the profession of social work in some conflict, as is the case in the medical field as well (Upton & Upton, 2005). Advocates who research, write and teach in the field argue that practice must be empirically or research based. They further argue that practitioners should treat clients based on interventions that have documented support in research. However, practitioners not only do not practice in this way, but many have not been trained to do so, as it is difficult for practitioners and organizations to find time and resources. This is part of the challenge with the practitioner/researcher model. Practitioners are not given the tools they need to succeed. And still many others do not know about EBP, possibly because it is a relatively new process. As a result, the profession is in an identity transition in terms of practice. Research needs to be conducted in order to discover the best ways to bridge the gap between EBP supporters and professional practitioners. This researcher argues that social work education can be part of that bridge in terms of its position of training master's level workers and practitioners. This paper is a study into practitioner experiences and perceptions of the process of EBP. From the research, information will be gained that will have implications for how EBP is taught in master's level social work education.

CHAPTER 2

HISTORY, CONCEPTUAL FRAMEWORK AND REVIEW OF THE LITERATURE

Evolution of Research in Social Work Practice

Dating back almost to social work education's conception, scholars like Edith Abbott, Sophonisba Breckinridge, Porter Lee, and Gordon Hamilton have been advocating for research on practice (Shoemaker, 1998; Dore, 1999; Germain, 1970;). In the years following Lee, Hamilton wrote about the need for social workers to evaluate their practice in practical and quantifiable/measurable terms, rather than making assumptions about their success (Dore, 1999). Richard C. Cabot elevated that charge in 1931, stating that social work must be rigorous in research (Kirk & Reid, 2002).

This discussion on the changing trends includes the work and words of the leading social work practitioners and educators in the field. Practitioners in the Charity Organization Society (COS) paved the way in social work practice. They based their aid on need and established what they considered a scientific way of dispensing aid (Kirk & Reid, 2002). In the late 1800s, social welfare advocates such as Anna Dawes and Mary Richmond, began making moves toward an organized method of training new workers in what Richmond called schools in "applied philanthropy" (Shoemaker, 1998; Leighninger, 2000). As leader of the Baltimore Charity Organization Society, Richmond urged other leaders to begin a process of formal education. With that

encouragement, the New York COS established a six-week summer school for social workers. This group of twenty-seven was the first of many, and eventually turned into the New York School of Philanthropy in 1903 (Now, Columbia University). Under the direction of leaders like Philip Ayres and Edward Devine, many students were extensively informed about social issues such as child welfare, psychological challenges, immigration, social ethics and poverty. Contemporaries of the school were the Chicago School of Civics and Philanthropy, influenced by the settlement house movement (Dore, 1999), and the Boston School of Social Workers, founded by Harvard University, Simmons Female College and Boston Associated Charities (Shoemaker, 1998). All of these schools encouraged rigor in scholarship. They all employed the knowledge of current leaders in social reform. And they incited debate within the field.

One of the foremost conflicts in the field was how to define social work. There emerged a challenge of curriculum selection, as a result of the disagreement about the definition of social work. For example, the New York school's debate over the main identity of social work included a transition of leadership in 1912, and therefore a shift in the focus from a social policy-based curriculum to a social casework skills approach (Shoemaker). Because the New York school was the leader in social work education at the time (Shoemaker; Dore, 1999), social casework became the defining factor for schools of social work. Additionally, the profession began to deal with conflict around the use of research in practice (Germain, 1970; Rubin & Parrish, 2007). This dialogue began with Mary Richmond, with work contributing to *Social Diagnosis*, and Porter Lee, director of the first school of social work (Reid, 1994; Dore, 1999).

Brieland (1977) gives an overview of social work's professional history. He begins with the emerging profession in 1929, and the conference at Milford, PA; which was led by Porter Lee, director of the New York School. At that time, the consensus was that social case work was not just about linking people with the right resources, but more importantly, aiding clients in the ability to deal with whatever challenges set before them. And that *that* was the art of social work. The prevailing professional philosophy here was the social and ethical responsibility of the worker to the client, be it individual or community. In social work practice, the means to that end included: a social history, an understanding of the person-in-environment, engagement of the client-worker team, an objective to make changes, and an acknowledgement of societal norms/deviances; with the convergence of those being social treatment (Brieland; Dore, 1999). This treatment was generic, as reported by Mary Richmond before Milford, meaning that social treatment employed most of the same basic skills (Schatz, Jenkins, & Sheafor, 1990). These skills were to be primarily taught in schools of social work, according to Richmond, in order to prepare young, talented workers for practice (Dore, 1999; Leighninger, 2000). At the time, the profession had to distinguish between generic practice and specialized practice; as well as decide on the place of both. The generic (generalist) approach included knowledge and understanding of the following: social deviance, human relationships, social history, treatment methods, community resources, social research findings, ethics, and responsibility (Schatz et al.). Specialized practice included more knowledge in specific areas. At Milford, the profession espoused the generalist approach for all social work practice. The challenge became

how to include micro, mezzo and macro practice under the same professional umbrella. At the Chicago School, Edith Abbott and Sophonisba Breckinridge were able to conceive of that combination in the early 1920s. They believed wholly in the importance of social casework, but that casework could only be enhanced by a growing knowledge of the social sciences, through science. To them, social casework provided fuel for social reform as well as new and effective social policy (Shoemaker, 1998).

By 1939, there became more of a focus on social work education. As a result of the conflict surrounding the importance of general casework and specialized social work; the National Association of Schools of Social Work (NASW) had decided that professional social work education should only be taught at the graduate level (Brieland, 1977; Morales, Sheafor, & Scott, 2007). This had more to do with social work's desire to be viewed by the general public as a profession. But the field was still trying to identify itself. In the late 1950s, the Council on Social Work Education (CSWE) decided that the role of social work in society was enhancement of social functioning for individuals and groups. And in order for the profession to educate accordingly, there must be intentionality in the understanding of self-awareness, social work skills, and human development (Brieland). According to Harriet Bartlett, this knowledge must come from the specialized professions such as biology, anthropology, sociology and psychology, and then applied to the field of social work. (Schatz, Jenkins, & Sheafor, 1990). As far as schools of social work were concerned, there was a challenge of completely defining the generalist social worker and what exactly he or she is expected to be able to do. In the 1970s, CSWE added to accreditation standards that

schools of social work must prepare undergraduates and graduates for generalist practice. And the generalist practitioner would be equipped in the following areas: bio/psycho/social development, person-in-environment, professional development, practice skills, values and ethics, change process, and diversity (Schatz et al.).

As a result, again led by the New York School, the field of social work took a slightly clinical route in the late 1920s and early 1930s. Their reputation was cemented with the hiring of several new faculty members that wrote in professional journals about the "diagnostic model" (Dore, 1999). Theirs was a model based on psychodynamics and the scientific method. What Mary Richmond began in 1917 with *Social Diagnosis*, Gordon Hamilton continued in 1940 with *Theory and Practice in Social Casework*. They agreed that studying the person within the environment using psychoanalytic methods was a key component (Dore; Kirk & Reid, 2002). Continuing in this vein was Dr. Florence Hollis, who emphasized a process of information gathering, diagnosis, treatment and evaluation of the individual's problems (Kirk & Reid); and Helen Harris Perlman, who utilized a problem-solving approach much like that of Dr. Hollis' social casework. Here, Perlman argued that the worker needed the skills of addressing and analyzing the facts surrounding an individual's problem, deciding on the best actions to take to alleviate the problem, and then evaluating the actions taken by social research methods. This problem-solving method is discussed in her book *Social Casework: A problem-Solving Process*. There was some criticism around this stance as other schools were concentrating on more of a macro practice, such as the Chicago School. The

Pennsylvania School, in their quest to improve on current practices, made their mark in a new theory called Functionalism.

The Pennsylvania School of Social Work emerged on the scene of social work history in the early 1930s. Led by Jessie Taft and Virginia Robinson, the school espoused the Functionalist approach to social work. Functionalism was derived from a former Freudian named Otto Rank, who credits client progress to the function of his or her will (Gelles, 2007; Dore, 1999). In Functional casework, the worker is in collaborative partnership with the client in the client's quest for change. The client-worker relationship was framed in segments of "beginning", "middle" and "end". The process of change was based on society norms and the agent's (client's) functioning (Gelles). The shift in philosophy here is that the worker was not in charge of the client's achievement of change, but only a co-worker. The team worked together for the client's desires and functioning in order to effect change. This is consistent with current social work values of client self-determination and starting where the client lives, within his/her own social functioning. Perlman was able to combine concepts from both diagnostic social casework and Functionalism in her problem-solving approach to casework. Current clinical social work is based on these combined principles of using time, client participation and direction, setting goals based on diagnosis, and evaluating progress.

From a foundation in Functionalism and Behaviorism, the Task-centered approach established that tasks to accomplish healing were directly related to the problem identified (Payne, 2005) Developed in the late 1960s by W. J. Reid and A. W.

Shyne, this method became a key approach in social work practice (Payne, 2005). Task-centered or Brief treatment comprised treatment that is short-term and objective. Specific, client-defined problems are addressed and specific, agreed-upon tasks are planned and executed by the client in order for healing to take place (Blizinsky & Reid, 1980). This worked well for the research community because tasks were measurable and the intervention could be studied. It was therefore accepted by those advocating for more research in practice. In this model of practice, client and worker develop as a team, focusing on a specific problem, identifying and overcoming barriers to the implementation of the tasks (Blizinsky & Reid). In this structured approach to healing, duration of intervention is six to twelve weeks.

Carol Meyer's perspective on psychodynamic social casework was that it was not adequate to deal with all of the problems that caseworkers had to address with clients on a day-to-day basis. At the same time, there had to be a research base of knowledge around casework methods. She espoused a systems theory in the early 1970s that was more comprehensively addressed by Mary Paul Jancill, Ann Hartman, and Carel Germain. These scholars discussed eco-mapping, goodness-of-fit and the individual's ability to interact with his or her environment. The profession adopted the ecological systems theory fully and schools of social work widely promoted it as invaluable in clinical social work practice (Payne, 2005). At roughly the same time, the field began to adopt a behavioral perspective which was currently prominent in the psychology discipline (Witkin, 1996). Behaviorism or Behavior Modification appeared to be a way of practice that would allow practitioners to operationalize and therefore

measure client progress. Behaviorism laid a foundation in social work for single subject designs (Witkin).

Growing Interest in Research

Eventually, the trend has tended toward empirically or evidence-based practice in social work and in schools of social work. But this was not just a current focus. Since the assertion by Abraham Flexner in 1915, that the field of social work was not to be called a profession, due in part to its lack of original research (Flexner, 1915; Jenson, 2005; Morales, Sheafor, & Scott, 2007; Kirk & Reid, 2002; Leighninger, 2000), social work has had many advocates of the scientific study of social casework. Scholars and researchers have since been generating original social work knowledge. Mary Richmond was one of the first to set a standard for empirical casework research (Germain, 1970). At the New York School under the direction of Porter Lee in 1917 and thereafter, there began an understanding for the need for research that would identify effective casework practice. The need for more informed study came about more clearly with the establishment of the Association of Training Schools for Professional Social Work. Lee produced the school in order to eventually educate instructors to more effectively train and equip students for social work. As a result, training materials would be developed that would aid instructors in teaching social work processes and social research would be engaged (Dore, 1999). Behind him Gordon Hamilton argued that research could be employed in evaluation of casework and thereby enhances casework effectiveness. She discussed the idea that social workers of the day may not be succeeding, and that the way to find out was research. She

encouraged the use of the scientific method in finding answers to research questions (Dore). In the 1920s the first major social work intervention study was completed in New York (Kirk & Reid, 2002). Researchers were attempting to learn something about the effectiveness of the foster care system of the day. By the time of the Milford Conference in 1929, research and evaluation of practice was an important topic of concern and followed the medical model (Germain, 1970).

At the same time as research in social casework was building, the social survey movement was emerging (Kirk & Reid, 2002). Beginning in 1907, in Pittsburg, researchers could now access large amounts of information on a given issue, in one snapshot of time. In its conception, survey research was biased at best, but began a process of inquiry for use in macro practice.

Throughout the 1930s and 40s, social research was influenced by the continued work of Gordon Hamilton. She focused on the idea that casework involved identifying many aspects of the person, a more holistic view of the individual, including the role of the worker with the client (Germain, 1970). These issues were included in the assessment piece of the medical model, which the social work community adopted in psychosocial casework. Into the 1940s, research focused on classifications of diagnoses and interventions (Germain). Florence Hollis championed science and research in social casework (Dore, 1999). Indeed, she was the first social worker to scientifically study casework methods using family therapy cases. Her analysis and conclusions about casework methods and the categories thereof, led to the 1964 book, *Casework: a*

Psychosocial Therapy and were considered a valuable tool for casework practitioners (Dore; Kirk & Reid, 2002).

The Chicago School was paramount in the field of scientific study of social casework. As dean, Edith Abbott championed scientific study; and the *Social Service Review*, a professional journal dedicated to research and the profession of social work, originated there in 1927 (Germain, 1970). This was timely, as leaders in the field were championing and encouraging rigor in social research (Kirk & Reid, 2002).

Scholars continued, in the 1950s, to study social casework, family issues, and areas of clinical social work (Reid, 1994). William Reid, along with contemporaries Laura Epstein, Arthur Schwartz, Scott Briar, Irwin Epstein and Tony Tripodi, argued for the use of empirically-based methods of casework practice. There was a growing suspicion, grounded in some study, that casework, as it stood, was not as effective as the profession had previously believed, or assumed. In Edward Mullen's 1968 groundbreaking study of outcome effectiveness, he researched and found that social casework was not the psychoanalytic entity that they thought; but rather sessions in which clients discussed their lives, feelings, and problems and ways of functioning within the problem (Dore, 1999). He addresses this and other studies in casework that suggest that casework may not improve clients' lives anymore that financial assistance alone improves the lives of social service consumers, as well as implications for these findings (Mullen & Dumpson, 1972). So, it was not until then that social workers began looking at science in terms of how specific interventions work with individual client systems in a practice setting; and that the profession found a way of introducing rigor

into the social research process (Reid, 1994). In the 1970s, Joel Fischer wrote about casework effectiveness in terms of the MSW practitioner (Fischer, 1979). His reports on research showed that MSW practitioners are not performing any better than their non-professional counterparts. Fischer (1978) argues that as a result, practitioners must be effective in practice, and that effectiveness is demonstrated in evidence. In his book, *Effective Casework Practice: an Eclectic Approach*, Fischer discusses different models of practice and their effectiveness as well as the use of the single subject design in practice.

Throughout the years since, social work scholars have argued the need for more empirically-based knowledge, particularly originated by social workers. Clinical social work borrows from many theories and schools of thought, such as psychoanalysis and cognitive behavior, and all must be tested for effectiveness against the notion that individuals function within his or her own social environment. What was in the early days of Richmond and Hamilton, "study/diagnosis/treatment" is now "exploration/assessment/intervention/evaluation" (Dore, 1999, p. 187). Both processes address the uniqueness of the individual, based on the environment in which the individual lives and breathes. And it is this realization that makes social work's research distinctive.

The Empirically-Based Practice Movement

The 1960s introduced the single-system designs. At the time, schools of social work were employing more doctoral, and therefore research-based, professors; and more students were going on to earn doctoral degrees. Another factor was that the social

work profession was gaining interest in empirical studies of practice and effectiveness (Reid, 1994). Accountability became more of an issue as society was beginning to acknowledge the possibility that casework alone may do little to actually change lives. Single-system research, established in social work by scholars at the University of Michigan, seemed to be the answer to assimilating research in social work practice as it was feasible and rigorous science (Reid; Witkin, 1996). The movement grew in the seventies as scholars moved around to different universities. Schools of social work began incorporating single-system designs into research and practice components of curriculum and CSWE soon required that a practice evaluation piece be added to programs. Single-system design continues to be taught in graduate schools, despite criticism about its feasibility and sub consequent under-use in practice. This is probably due to the profession's foundational intention to push the integration of science onto practice. The profession still needs its own body of knowledge.

These are the reasons why the single-system design took off, but the reason it has not been integrated into social work practice is believed to have something to do with the lack of agency support and time to commit to research. Perhaps it was the influence of outspoken writing of critics to empirical methods in the 1980s (Klein & Bloom, 1994; Heineman, 1981). Another reason is the remaining gap between academia and practice (Siegel, 1984). Perhaps academia has not yet been able to teach exactly what practitioners need to know. In order for this practitioner-researcher model to be infused into the profession, there must be more research, and resulting dissemination

from practitioners. Indeed much of the published single-system work has come from academicians who have been involved in practice (Reid, 1994).

Over the last twenty years, as the profession has grappled with the effective integration of research into practice, more studies have become available through advanced technology. Now, more than ever before, one can access information from almost anywhere via the web. So, as the quest continues, an evidence-based approach to practice has emerged, acquired from the medical field (Gambrill, 2003; Sackett, 2000). It has become the next attempt to meld science with practice. This shift is also due to factors beyond the profession itself. Funding requires that agencies prove their effectiveness. State laws hold professionals accountable for interventions used (Cournoyer & Powers, 2002). Clients have access, via the web, to more information concerning the challenges in which they are living. Additionally, within the profession, governing agencies such as NASW and CSWE have recently mandated that social workers use and teach the best possible interventions and be held accountable for them (NASW, 1999; CSWE, 2001).

Evolution of Outcome Assessment in Higher Education

At the same time changes were occurring in the field of social work and social work education, higher education in general was changing in terms of outcome assessment. As a result of these two influences, social work has evolved into a profession desiring to base its practice on researched effectiveness. In turn, schools of social work are in a position to teach the tools that enable professionals to practice in this way. In this section, the literature will be examined for changing trends in higher

education (HE) assessment over time and how HE came to a shift in the requirement of measurable outcomes.

Changing Trends

In *A History of American Higher Education*, Thelin (2005) reports on historical trends of higher education in America. He discusses this history in terms of all aspects of higher education from early beginnings to the 2000s. According to Thelin, post World War II America was a time of enrollment explosion: 1.5 million in 1940, before the war in 1940; 2.7 million in 1950, after the war. This was largely due to the GI Bill of 1944, which decreased the financial burden of those wishing to pursue HE. By 1960, enrollment was 3.6 million and by 1970, it had jumped to 7.9 million, as a result of integration and other HE formations such as community colleges (Thelin).

In the late 1940s, President Harry Truman, via the Commission on Higher Education, brought HE into the radar of the federal government. At this time, the prevailing philosophy for HE began to be that it is meant for all, and that federal money would be a way of accomplishing this end (Thelin, 2005). States had already begun supporting HE for their own students. During the time between the 1950's and the 1970's universities nationwide were experiencing an expansion as a result of the GI bill, which enabled war veterans to attend college, as well as the Baby Boomer's entry into college. This time has been termed the Golden Age of higher education (Altbach, P. G. (2002). Additionally, universities began to compete in the national market for money attached to science and research, where research was growing and respected (Altbach, P. G.). The role of federal grants, based on research, became prominent.

By the 1970s the institution of HE had suffered an identity crisis and was losing the nationwide draw of its academic charm, as students became a more diverse population in terms of age, ethnicity and gender (Altbach, P. G. (2002). In the minds of citizens, it was no longer a middle and upper class entity for the benefit of a greater society. Students of the 1960s had been more outspoken, and faculty had rebelled against controls put on them by administration. Insider and outsider confidence in the industry of HE declined. Additionally, institutions burdened with growing numbers of student applicants and the pressure to compete for them, were caught between the need to expand and a stagnant supply of financial support (Thelin, 2005). This is the backdrop for the emerging financial problems of the 1980s.

In addition to the continued enrollment growth through the 1980s, a struggling U.S. economy forced HE to compete with social services and health care for financial attention (Woodard, Love, & Komives, 2000). Most of the financial support directed at HE's institutions during the 80s fell from over 50% of state funding to less than 50%; and from 4% federal funding, to 2%. At the same time, tuition and fees rose steadily (Woodard et al.). According to Friedman & Friedman (1992), federal funding to universities fell as a result of the country's economic stagnation. Funding began to go directly to students as individuals were given responsibility for their educational costs (Altbach, P. G. (2002). The nation was undergoing financial struggle. Consequently, institutions of HE began to seek private sources of income in order to balance the financial needs with enrollment, and in so doing, were forced to demonstrate production

and quality. This is the point at which, assessment became an important issue in American HE.

A Shift to Outcomes

In order to remedy the problem of financial depletion, colleges and universities began re-aligning themselves with the funding organizations that provided federal and private grants (Thelin, 2005). Foundations began using matching grants as incentives. They also started to offer grants to schools based on the scholarship of women and minorities. Schools began competing for inclusion into federal financial aid to needy students. Federal research grants had increased by three trillion from 1960 to 1980 (Thelin).

Concurrently, since 1900 ranking systems were established by the Association of American Universities. Universities had been ranked based on aggregate scholarship, such as publications and grant money; but then there was a shift to ranking based on productivity per faculty member (Thelin, 2005). This ranking system influenced the philosophical trend to rate institutions of HE based on changing criteria. Eventually, HE governances shifted their view to include students in the ranking process.

Margaret A. Miller (2006), director of the Center of the Study of Higher Education at the University of Virginia, argues that the shift in assessment occurred for the purpose of acknowledging individual student knowledge, advancing individual programs and judging HE's worth to the government. According to Miller, Institution-wide assessment began in the 1980s, resulting from government pressure. The state and federal governments wanted to know if the money being spent on HE was actually

yielding better workers and stimulating a growing international environment (Miller). It is important to note, that in the 1980s, a general trend with businesses and companies across the country and abroad, was quality assurance (Allen, Ramaekers, & Van Der Velden, 2005). This shift in philosophy spread into the field of HE created a felt need for institutional accountability. Assessment is linked to accountability and responsibility in HE, and it answers questions of whether an institution is reaching the standards set by them and before them. But before assessment looked at outcomes, such as test scores and graduation rates, assessment looked at the inputs and processes of an institution (Allen et al.). It evaluated the performance of both the educational facilities and their students. But governing bodies, such as state Boards of Regents, could not get an accurate picture of what schools were producing, based on this assessment. They began looking at student retention, student satisfaction and degrees granted, along with graduation rates and standardized test scores (Office of Institutional Planning and Accountability, 2006).

Outcome assessments continue to be a growing concern in light of recent studies like that of the National Assessment of Adult Literacy. The 2005 study revealed that in 2003, only 13% of the 18,000 surveyed adults (ages sixteen and older) scored "proficient" in reading basic prose (National Assessment of Adult Literacy, 2006). That is, only 13% could "perform complex and challenging literacy activities". Only 44% could "perform moderately challenging literacy activities," according to the study. But surprisingly, only 25% of those with a college degree could be classified as proficient (Lederman, 2005). Additionally, scores across educational levels dropped from 1992 to

2003, even among adults with a graduate degree (National Assessment of Adult Literacy). Studies like these raise questions and concerns about what our institutions are producing and thereby acknowledge a need for outcome assessment that accurately reveals student learning.

But challenges to outcome assessment prevail. If this is to be nationally mandated, it must be decided exactly what skills and knowledge need to be assessed; as well as which standardized test can be used to measure success. There is also the issue of comparing schools. What will be the standard? One would expect a different level of success depending on the institution and the program. Should assessments be value-added, that is, comparing entry test scores to exit scores within the institution, thus indicating improvement? Also, how will financial support be attached to assessment?

Challenges aside, the focus here is on showing competency and achieving accountability for institutions of HE. A discussion such as this can not have merit without acknowledging the Secretary of Education, Margaret Spellings' Commission on the Future of Higher Education. The Spellings Commission was formulated in 2005 for the purpose of revealing the state of HE in this country and establishing a national dialogue into improvements. In September of 2006, a final report was submitted that included recommendations for improving HE. The report included high school preparation for college, affordability, privacy issues, and outcomes assessments of student learning (Lederman, 2006).

An additional piece of this dialogue is the creation of the National Survey of Student Engagement (NSSE). This survey was developed through a grant from The

Charitable Pew Trusts in response to the growing need for assessment of HE institutions (The National Survey of Student Engagement, 2007). The instrument was developed by the National Student Report, after research confirmed that students have greater college success when certain activities are included in the college experiences such as adequate time spent working together with other students and time spent relating one-on-one with faculty. Active learning teaching methods, exposure to diversity, adequate time in homework, high expectations, and timely feedback from faculty, are also among the practices that enhance student engagement (Kuh, 2004). The survey also addresses student perception of the environment in which students learn and live on campus, as well as time spent on employment, homework, family matters, and extracurricular activities. Responses to these items are compared with the student's perception of overall effectiveness and satisfaction with the school (Kuh).

Shifts in HE philosophy on effectiveness and accountability have coincided with social work's shifts in philosophy on determining effectiveness and accountability in practice to the broader society. These paralleling concerns offer a foundation for the emergence of evidence-based practice in social work, in terms of best practice and effecting teaching of best practices. Debates materialized in HE's attempt to find the proper place for EBP. The following section addresses the current debates.

EBP Debates

Although, research has been an important aspect of the field of social work practice for some time, only recently has it emerged as an issue that cannot be ignored, and is even somewhat contentious. The bottom line is the enhancement and

empowering of client lives. The profession's goal is to help, and using evidence is a logical step to take in the quest to help in the most effective ways. This issue is important to practice because of the client systems. It is important to the field for the duel purposes of professionalism and credibility. For example, social workers must enter into the new information era and allow it to benefit the field. This is a society in which client systems can locate a large amount of information about the world. Social work must also be on track with other professions who are addressing best or evidenced ways to effect change (Jenson, 2005). Additionally, social workers must also tap into, encourage or enlarge its own body of knowledge, so that its contribution is not just practical, but also educational. Gambrill (2003) suggests that the field cannot continue in the ambiguity of status quo practicing. There must be a higher level of performance and accountability. Practitioners, researchers and educators must be genuine in order for gaps to be acknowledged; and systematic in order for improvements to be made. It is commitment to the code of ethics that requires deliberate attention to excellence to the benefit of clients, colleagues and students (NASW, 1999).

Arguments of the Opposition

However, many have asserted other ideas. Some say that EBP is only a new name for an old activity in social work practice (Thyer, 2004). Gambrill (2006) noted that this type of attitude toward EBP only encourages, what she calls a 'business as usual' assessment of EBP and does not acknowledge the client as part of the decision-making process.

Other barriers and limitations according to Sackett et al (2000), are difficulties in using the evidence, a deficiency of meaningful research compared to the amount needed to incorporate an EBP model, the lack of needed research and assessment skills among practitioners, time limitations, and the fact that little evidence is available that actually supports EBP. Scholars recognize the lack of information as well as the discrepancy between the research and practitioner challenges. A study about an initiative called What Works for Children (WWfC) in England was a collaborative project between City University, the University of York and EvidencNetwork of UK's Economic and Social Research Council (Stevens, Liabo, Frost & Roberts, 2005). The service established an implementation officer who worked with practitioners on accessing research and addressing challenges encountered in the process; and a research team, who looked for the available research on any issue that front-line practitioners brought to their attention, as well as formatted the information in ways helpful to practitioners. They found that while there was research on many of the key issues, much of the evidence was not a result of a RTC or systematic review (an aggregated review of all available research). Indeed almost half of the questions addressed only had descriptive study or guidelines. They found a great deal of research bias, and concerns about generalizability as many studies were not performed in the UK. Other feedback from practitioners suggests that the information received from the research was not the information they needed. They may have learned about effectiveness, but little about actual implementation. They also found that much of the research did not address cultural issues specific to their client populations (Stevens, et al, 2005).

Still others argue that EBP is an unlikely shift in practice because practitioners do not value the use of evidence in practice, as it is time consuming, requires critical analysis that has not been taught, is expensive and difficult to access (Rubin & Parrish, 2007). Also, many agency administrators and practitioners still hold strongly to authority-based or "trust me" practice of doing what has always been done because someone said so (Gambrill, 2006). McNeill (2006) stated that 75% of the rationale for clinical decision-making is conceptual or theoretical and only 1% is based on research. This indicates that practitioners think empirical research is irrelevant to practice. Rubin & Parrish (2007) comment on a study that was conducted by G. A. Aarons in 2004, that measured practitioner and agency attitudes toward EBP, in which negative views of EBP were found. Some argue that EBP is not feasible and therefore a moot point. They argue that EBP will be a copy of the under-used and, therefore, ineffective single system design movement, only with an altogether different set of challenges. One wonders why the field should add a new difficulty to an aspect of practice that is currently not working as intended.

Some also argue that EBP does not take into consideration cultural and gender issues faced by clients, also termed a "cookie cutter approach" by non-supporters (Scheyett, 2006), in that "good" evidence is typically seen as quantitative and lacking in rich data. Additionally, most intervention research involves mainstream groups, but neglects to investigate other populations with particular challenges and needs. Related is the fact that most clients enter into the therapeutic relationship with a number of challenges. In EBP, the practitioner must look for evidence that addresses all of the

issues. Just because research addresses a population, it doesn't mean it will be relevant for the clients within the population (Gambrill, 2006). For additional discussion of the arguments for and against EBP, see Payne (2000).

The Gap between Research and Practice

As in other fields of study addressing EBP issues (Howard, McMillen & Pollio, 2003), there is a divide between academia and practice that has yet to be bridged and EBP has done little to that end, although it is intended to. Social research itself is a serious and important issue in social work and steps have been taken to improve it. The Task Force on Social Work Research led a thorough investigation, beginning in 1988, into social work research (Jenson, 2005). The work of this task force, led by David Austin, resulted in the National Institute of Mental Health's (NIMH) establishment of targeted research centers in seven schools of social work across the country. Through this initiative, professors were given an atmosphere more conducive to research, including accessibility of grant funding (Jenson). Statements on research guidelines were published. Both the Institute for the Advancement of Social Work Research (IASWR) and the Society for Social Work and Research (SSWR) were formed in the 1990s. The heightened national attention to research speaks to its importance in the field, yet academia itself is split on the issue. Some see the viability of EBP, while others see its futility. Those that are hopeful of the shift are the researchers and programs making an attempt at implementation in schools of social work.

It is social work's intention to create effective, systematic practice; yet work still needs to be done to improve and make practice more systematic and empirical (Rosen,

2003). The field of social work practice, however, has many challenges to this goal, including changing the perceptions of agencies and practitioners.

Establishing the fact that the research-practice divide is a real challenge to the field, the most logical way to alleviate the problem is to educate differently (Siegel, 2001; Howard, McMillen & Pollio, 2003). Masters level workers in social work, particularly those in direct practice, are the practitioners who are expected by the profession to utilize EBP. And hopefully, social work education (SWE) will be effective enough that future students will incorporate EBP naturally (Scheyett, 2006). Howard et al, assert that the role of SWE is to "provide the general knowledge and skills needed to select, evaluate, and apply the best supported intervention" (p. 240). Therefore, schools of social work have begun an open dialogue concerning the implementation of EBP in curriculum.

Theoretical Base for Social Work Education

The theory of self-efficacy was established by Albert Bandura (1994) of Stanford University. Self-efficacy refers to the belief that one can accomplish the tasks needed to reach a goal (Bandura, 1994; Payne, 2005). Worded differently, to the degree that one believes he or she can complete tasks leading to the ultimate goal, is the degree that the person can accomplish the goal. Bandura makes a distinction between the efficacious person and all others in that they set high goals for themselves, they are persistent, and they learn from their failings because they consider those failures to be a result of a lack of knowledge or skills, not themselves. Self-efficacy can be manufactured in individuals by working hard at something they ultimately accomplish,

seeing others accomplish an equivalent goal, hearing praise for their abilities, and eliminating stressful barriers (Bandura). According to Bandura, adults in the workforce can increase their own sense of efficacy by maintaining control over their thoughts, emotions, and motivation.

Implications for SWE is that to the extent students believe in their ability to accomplish the tasks involved in utilizing EBP, and the EBP process, is the extent to which the profession will make that shift. Simply put, the mission for SWE is to identify the needed skills and teach them to students in higher education. Integrated in the system must be difficult yet attainable assignments, verbal encouragement or praise, visible examples, and the elimination of barriers to accomplish the goals, like accessibility, time, and appraisal skills, for example.

The same is true for practitioners in the field. Workshops, continuing education and in-service training teaching EBP skills must include difficult yet attainable tasks, verbal encouragement by supervisors, visible examples by others and the removal of the barriers outlined in following sections. Schools of social work have the potential to be the link between the ideal shift in trends and practice.

Social Work Education and its Issues as Link Between Research and Practice

With that in mind, the HE issues being addressed include whether EBPs should be taught, and if so, what type of curriculum is best, and where in the curriculum should information about EBPs be placed. The following is a discussion on these debates.

Possibly foremost is the challenge of teaching students to formulate an appropriate and effective research question. As indicated in the Stevens, Liabo, Frost &

Roberts study (2005), how questions are asked from practitioners and clients are not the same as how they are addressed in research. Students need to learn how to reframe their practice questions to fit the research that best answers their initial practice questions. This first step is the most difficult and yet the most important to teach effectively (Sackett et al., 2000).

Issues with teaching EBP include teaching that guards against its possible, eventual misuse (Scheyett, 2006). Educators in EBP must teach students to first detect possible misuses, and then protect against them. Using EBP approaches for any reason other than good practice is misuse. Using EBP to coerce; making it an indisputable standard; or using it to identify good practices without critical appraisal; are all areas of misuse, according to Scheyett.

A challenge inherent in a paradigm shift is giving information that will cause the learner to change his or her mind about the way things have been done. Resistance is a huge issue because of the critical thinking that students and professionals already have. Mullen, Bellamy, Bledsoe & Francois (2006) mention that people generally think of knowledge as stable or static, when it is actually dynamic. Allowing the field to evolve into the realization that knowledge is constantly in flux will be a challenge and a benefit. A by-product of this thinking is the lack of funds allotted for research. Allocations are being limited because agencies have little motivation for researching information that they think has not changed and will not change any time soon (Mullen et al, 2006).

As far as the challenge of what to teach, it is suggested that EBP (the process) be taught in opposed to EBPs (Gambrill, 2006; Mullen et al, 2006). Again, EBP is the process of critically appraising a problem, seeking best available evidence in research and using it to inform practice. EBPs are the research-supported interventions. While teaching practice courses on those interventions that are best supported in research is important to the process; what matters more is that students understand how to locate the information and subsequently, how to use that information. Teaching EBP is the more valuable approach when trying to establish lifelong learning. Additionally, according to Bandura's (1994) theory of self-efficacy, it is equally important to teach the actual skills involved in the EBP process.

In considering where to place EBP within the curriculum, one goal of social work is to train practitioners who effectively utilize research in practice. To this end, it is recommended to place EBP in practice classes (Shaw, 2005). The process of practice is, to Shaw, similar to the process of qualitative study, in terms of reaching meaningful data.

Gibbs (2007) asserts EBP could be effectively taught in research courses. He states that it is important to teach students how to use research in practice instead of how to conduct studies, as practitioners have no time to conduct research studies. Because searching evidence could, conceivably, be integrated into practice, educators must equip students to learn this in research courses. Further, in Gibbs' address, one professional argued that most students do not leave school and become researchers, most become practitioners; therefore, change is needed in the way research is taught. In

agreement, Sackett et al (2000) assert that one mistake in teaching EBP is teaching students to research instead of teaching students to locate, use, and interpret the research. Gibbs also suggests educators attempt to integrate EBP across the curriculum in order to research how students are best utilizing evidence. This would also serve to inform most effective placement of EBP within the curriculum. The field placement as seen in the following Ronen (2005) and Horwath & Thurlow (2004) studies provides an optimal environment for practicing evidence-based approach to practice. Just as the medical field advocated for teaching EBP in student rotations (Sackett et al., 2000), social work might benefit from teaching EBP in field placement.

It may serve a school to offer classes that are neither in the practice track or the research track nor in field placement, but rather that is strictly an EBP course. This class could be introductory, and therefore set the tone for more advanced EBP learning in research and practice courses, which will inform field education. This class would do what Shlonsky & Stern (2006) call "creating a culture of inquiry" that would permeate the students' educational plan (p. 8).

Studies on Evidence-Based Practice

Because EBP in the field of social work is still very new, most of the studies so far have been focused on effectiveness of specific interventions. Only a few studies were found that researched EBP itself and the profession's reaction or receptivity to it. There have recently been studies on perceptions of practitioners and of faculty. There is to date only one research-documented school of social work that has attempted to

implement EBP across their entire curriculum, which is the George Warren Brown School of Social Work at Washington University (Woody, D'Souza & Dartman, 2006).

Practitioner Perception Studies

A study by Gioia (2007) investigated practitioner perceptions of EBP. Within the context of researching practitioners' attitudes during and after being trained in the use of EBPs, Gioia reports on the results of the fifteen practitioners' assessment of the use of EBPs. The main study was qualitative; however, a quantitative piece was added and utilized the Evidence-Based Practice Attitude Scale (EBPAS) created by G. A. Aarons. The assessment measured practitioners' attitudes on the following: 1) appeal, which addresses a level of desire to use it, 2) requirement, which addresses how much EBP would be utilized if required, 3) openness, which addresses how EBP would be utilized if following a manual, and 4) divergence, which measures practitioner fidelity to EBP (Gioia). This group was fairly consistent throughout the training, in that the practitioners scored high (scores closer to 4) on appeal and divergence, but mid-range (scores around 2) on requirement and openness; indicating to this author that practitioners are likely to understand EBPs and adapt them to their setting, but that they may or may not be willing to use them if not trained, even if required.

Additionally, the George Warren Brown School of Social Work at Washington University surveyed their field instructors before implementing EBP into their curriculum (Edmond, Megivern, Williams, Rochman, & Howard, 2006). This provided information on practitioner perceptions and attitudes. Of the 600 field instructors who were sent surveys, they received a 47% response rate that included 180 different

agencies. A majority of the respondents were Licensed Clinical Social Workers (58%) or Academy of Certified Social Workers certified (15%). The researchers found that most of the respondents (87%) agreed or strongly agreed that EBP is useful, and 70% of the respondents reported support of their administration in the use of EBP. Most of the respondents reported having resources to access EBP, including internet, professional journals, practice manuals, practice guidelines and systematic reviews; and 73% relied on conferences and workshops to increase their EBP skills. Other avenues were supervision, literature reviews, and journals. Not surprisingly, 97% of the respondents reportedly use practice experience in practice decision-making. So consistent with the previous study, many advocate for the use of EBP, far fewer actually utilize EBP with regularity.

Nelson, Steel, and Mize (2006) reported on findings from two focus groups of practitioners investigating attitudes about EBP. The respondents included practitioners from two different community mental health settings (n=19) that were MSWs, doctoral clinical psychologists, masters level psychologists and an advanced registered nurse practitioner. Themes that emerged for these respondents were consistent with practitioner challenges mentioned previously in this paper. They include: long treatment durations, specialized competence requirements, and research that is not applicable; limited time, economic resources and training; and clients' complex presenting problems, resistance and inconsistency. Also constant was accessed information on treatment, such as colleagues, workshops, books and the internet. When asked what recommendations they would make to researchers, among other things, respondents

said: “Come spend a day with us”, indicating, again, the research-practice divide that exists in the field. As far as receptivity to EBP, this group was split. The first group’s consensus was positive toward EBP and the second group was negative. This discrepancy is indicative of the division within the entire field of social work.

As no studies of EBP process perceptions and use were located in the field of social work, studies were reviewed from the field of medicine. McColl, Smith, White, and Field (1998) surveyed physicians in the UK (n=302) and found that physicians were mostly supportive of evidence-based medicine (EBM) and agreed that EBM was beneficial to patients. However, they reported a mean of 50% of their practice as being EB. Only 40% of the respondents knew about systematic reviews such as the Cochrane Database. They reported barriers to use being mostly related to time (n=171), as well as issues with primary care (n=62) and issues with the evidence (n=59). A study comparing hospital doctors’ perceptions to general practitioners’(GP) perceptions of EBP was completed by Upton and Upton (2005), which revealed that hospital doctors utilized EBP more and reported more EBP skills than their GP counterparts. There was no difference in knowledge of EBP, as both groups reported 50% or more knowledge. GP doctors reported having more difficulty overcoming barriers of time and access to evidence, than hospital doctors.

In studies surveying physical therapists, Jette et al. (2003) and Iles and Davidson (2006) reported high levels of support for EBP. Both studies found that those licensed for five years or less were more supportive and reported more confidence in EBP skills. Jette et al. surveyed 488 physical therapists across the US. Respondents reported belief

that EBP is necessary in practice (90%), literature is useful (82%), and improves patient care (79%). Overall, 65% reported confidence in their EBP skills. Iles and Davidson compared recent graduates (<5 years since graduation) to experienced graduates (>6 years since graduation) with a response rate of 53.9%. They found that recent graduates scored almost five percent higher in skill level than experienced practitioners. They also reported better rates of understanding of more EBP terminology and more frequent EBP activities such as accessing EBP databases and practice guidelines. Together, both groups reported primary barriers being time and access to evidence.

Likewise, McGuire (2006), in a dissertation study of Texas MSWs in clinical settings, found that time was the most prevalent barrier and that of the LCSWs surveyed those that had graduated after 1992 were more likely to try new therapies as directed by an authority. Also the researcher found that 36% of the practitioners accessed social work professional literature less than three times a year.

These studies reveal some of what the schools of social work faculty perception studies reveal, and that is that receptivity may be high, but implementation and integration into practice are low, as will be detailed in the next section. And again, practitioners with higher certifications or more education show greater support for EBP than entry level masters and baccalaureate level practitioners. Recent graduates are more likely to use EBP, than experienced practitioners. Practitioners are similar in their reliance on each other for information and practice decision-making. These studies are informative for indicating the types of activities in which academia might become

involved, in the acceptance of EBP in practice; does not guarantee that general practitioners will follow.

SWE Perception Studies

Siegel (1984) conducted a study that investigated a new way of teaching EBP in the School of Social Service Administration at the University of Chicago. In 1979, the school began teaching graduate level research and practice jointly with a research and a practice instructor working together. At the end of the winter quarter in 1980, the fourteen instructors (including doctoral teaching assistants) were interviewed, asked to: complete an Integration Activities Checklist designed to assess their integration activities of the past year, complete a questionnaire about the course they taught, produce course materials such as outline, syllabi, exams, assignments, etc., as well as, discuss their views on the relationship between research and practice. In addition to the faculty being questioned, the students that completed the program (n=123) were ask their perceptions of research in practice. What Siegel found was that views of students and instructors could be divided into five categories about research in practice. All of categories indicated a good fit between research and practice, indicating to this author that EBP could be integrated into practice courses.

Dr. Allen Rubin from the University of Texas recently performed a large study on faculty perceptions and issues in the implementation EBP in social work education (SWE). He and researcher Danielle Parrish surveyed administrators and faculty from 170 graduate schools of social work in 2005, resulting in a 33% response rate (n=973). They found that 73% of the respondents viewed the concept of EBP as "favorable" or

"very favorable" and only 12% viewed it as "unfavorable" or "very unfavorable" (Rubin & Parrish, 2007). This finding indicates to this author that EBP has a viable chance to be integrated in schools of social work, if based on acceptance.

Woody, D'Souza & Dartman (2006) surveyed deans and directors from CSWE accredited schools of social work. Of the 165 surveys mailed, 40% responded (n=66). Their intention was to discover which MSW programs are teaching EBPs. Researchers used a survey to determine a description of the schools, and faculty and administrators views of EBPs. Concerning views on EBPs, respondents were asked for informal/individual positions and formal/official positions. They found that "informal faculty commitment to the goal of teaching ESI (empirically supported interventions or EBPs) in the curriculum was significantly greater than program commitment" (p. 474). Only 31 programs taught specific EBPs and of those, only six actually required students to have training manuals for the specific EBPs being taught. So, while there is informal support for the teaching of EBPs, there is little actual teaching of EBPs in the schools. In terms of the teaching areas of the faculty who were most interested in EBPs, 53 taught research and 51 taught advanced clinical practice, indicating that EBP could be taught in both practice and research content areas. Although this study focused on EBPs, it does give an indication of the stance of MSW programs for EBP in general, and is therefore useful.

In a broad sense, analyses of these studies reveal consistency. They suggest that among those surveyed, EBP is generally well received. Keeping in mind that many schools of social work have very little information to support or reject EBP; there is a

possible bias in these studies, that those individuals who responded are already proponents of EBP. These studies also suggest that there is a difference between supporting the idea of EBP and actually implementing it into the curriculum. The studies reported little, if any, formal implementation. There seems to be some correlation between the amount of education that instructors held and their support of EBP; those holding advanced degrees reported more support for implementation of EBP. It is not surprising that these are the individuals who are likely to be involved in the research field and have more invested in the position the profession takes on EBP.

Implementation Studies

The following is a review of the literature on the ways in which EBP has been implemented in schools of social work, either in practice courses, research courses, across the curriculum, or in field education.

One example of implementation is at the George Warren Brown School of Social Work at Washington University (GWB). It began with a faculty dialogue into what students were being taught. They found that students were not gaining the skills needed to 'identify, access, critically appraise, and apply' research to practice (Howard, McMillen & Pollio, 2003). They outlined the following seven objectives that needed to be met in the curriculum. They wanted students to: learn to value EBP; learn how to select appropriate interventions based on evidence; appreciate EBP's relationship to policy and theory; utilize EB interventions in micro, mezzo and macro settings; learn to use practice guidelines, manuals and systematic reviews for specific populations and settings; learn to evaluate practice; and identify their own practice questions. So in

2001, they introduced these areas into the different courses throughout the curriculum from foundation to field. One challenge that the school had to address was the use of EBP in their field placements as many agencies did not support it. GWB faculty decided to hold the students responsible to research the intervention most used at their field placement. Because field education is imperative in the effort to integrate EBP into practice, it is important that schools of social work do not compromise their relationships with placement agencies and the community (Edmond, Megivern, Williams, Rochman, & Howard, 2006). One way is to provide technological support for those agencies that are ready to become an EBP setting. As with GWB, schools could perform a study to find out what their agencies' position are on EBP before attempting to implement any change. Intentional work with the GWB field placements commenced in 2002. Time will inform as to whether GWB was effective in its implementation of EBP, as yet, GWB has not published research on its effectiveness. But for now, the school serves as a valuable resource for other schools of social work.

Ronen (2005) reported on a study at Tel-Aviv University where EBP was integrated into field education. She begins by suggesting the importance of effectiveness and challenges in field education. One reason that attention must be given to field education is that coursework does not equip students for practice (Horwath & Thurlow, 2004), and another reason is the discrepancy in field placements between that which is being taught in classes and seminars and that which is being taught in the field. For example, the use of questionnaires was found to be a waste of time and inappropriate to client needs, yet students were being charged to use them in single

system designs. This challenge is present in all types of research for students in field placement (Ronen). In this study, students (n=17) working in their direct practice, or micro, field placements with children who had been diagnosed with oppositional defiant disorder (ODD), implemented an evidence-based intervention. The result of the process was reportedly favorable for students and field placements alike.

In a UK study by Horwath & Thurlow (2004), students were given opportunities to utilize macro level EBP in field placements and found it to be an enlightening and beneficial process. This type of evidence was found to be broader, in that it included community resources important in macro EBP. It also included qualitative research, such as observation and participation.

Limitations of literature

In doing this literature review, it became clear very quickly that much was being said about EBP, but little was being done. Again, this is a relatively new shift for social work, so for that reason, conceptual papers were in abundance. Many writers in the EBP dialogue gave definitions and history, much of which conflicted, as well as implications and challenges for practice. Many discussed the need for, or critique of, the integration of EBP in social work (For example, see Payne, 2005; Gambrill, 2003; Reid, 1994; Siegel, 1984; Thyer 2004; Witkin, 1996). Few papers, however reported on studies of how EBP is viewed or implemented. Several studies were located that reported on specific EBPs and implementation of specific interventions, but they were not the focus of this paper, however much they contribute to the knowledge base of EBP in general. In terms of the embracing of EBP in SWE, a few studies reported on specific ways EBP

education has been integrated into curriculum via field education, and only one school of social work has implemented EBP as thematic across the curriculum.

The fact that there is still so much attention to debating about EBP in the literature indicates and stabilizes its infancy. If the profession of social work needs to espouse EBP, advocates would serve the profession better by conducting research. In this way, evidence can be accumulated that EBP is indeed best practice.

Literature Review Conclusion

Because EBP is still new to the field of social work, there are more conceptual papers than there are research papers written on the subject. Professionals are still in the process of identifying and clarifying EBP and its place in social work. As EBP becomes more prevalent, more studies will be conducted on its effectiveness. For this reason, this literature review is limited in terms of its lack of studies reviewed and abundance of conceptual papers reviewed. Additionally, there are various authors writing on the subject of EBP who have very specific suggestions on how it should be implemented in practice and education (Gambrill, 2006; Franklin, 2006; Howard, McMillen & Pollio, 2003; Mullen, et al, 2006; Proctor, 2006; Scheyett, 2006; Shlonsky, 2006). Those different ideas were not all addressed as they went beyond the purposes of this paper. To summarize, the field of social work has evolved and met with higher education's need for accountability and the teaching of accountability in practice. The latest shift in research trends in social work is the EBP movement. EBP has aroused debate in whether or not it has a permanent place in the field, as well as, how it must be implemented and how it is best taught. In addition, the limited research indicates that

there is considerable support for EBP, but little integration in practice and higher education settings. Reasons for this discrepancy are lack of knowledge and resources. Schools of social work could be a bridge for implementation, but further study must go into educators' and practitioners' views and suggestions on the use of EBP.

Research Questions

In closing, this researcher asks the following questions concerning practitioners, as a result of a review of the literature, to be addressed in the proposed study:

1. Are practitioners, in general, using the EBP process?
2. Of those that use EBP, to what extent is their practice EB?
3. What are the professional characteristics that best predict the use of EBP?
4. About those who do not use EBP, what is the relative importance of the factors that constitute barriers to use of EBP?
5. What are the implications for social work education?

CHAPTER 3

METHODOLOGY

Introduction and Research Design

This study is being conducted based on questions arising following a literature review on the topic of evidence-based practice (EBP). The literature review, referenced in chapter two, suggests that there is a gap between researchers in social work, and practitioners in the field. These researchers and advocates support an evidence-based or research-based practice approach. They espouse the ideas and activities of locating empirical support for interventions before implementation. However, practitioners have several practical barriers to that end, such as time, work load, limited access to research and limited appraisal skills. Social work education has the potential to bridge the gap between the two groups in the profession. This survey research will provide information that will have implications and recommendations specifically for social work education, in terms of how the academic community can contribute to the resolution of practitioners' challenges.

This research project is a study into practitioner experiences and perceptions of EBP. It is an exploratory study for the purpose of adding to the limited knowledge concerning practitioners and the use of EBP. This is a quantitative study using a survey questionnaire, sampling masters of social work (MSW) practitioners in the state of

Texas. It has a non-experimental research design, as there are no control or comparison groups. The outcome variable of this study is level of use of evidence-based practice, defined as the level of adherence to the steps of the evidence-based process. Its goal is to gain a better understanding of practitioner views, perspectives and experiences that, in turn will aid in enhancing the way evidence-based practice is taught in schools of social work.

Hypotheses

Research questions referenced in chapter two were formulated as a result of a review of the literature. Consequently, hypotheses were formed from those research questions. With the study outcome variable being level of EBP use, this researcher's hypotheses are as follows:

1. There will be low levels of EBP use among the respondents.
2. Of the barriers to implementation reported by respondents, time limitations will emerge as most prominent.
3. Those respondents with higher levels of EBP skills are more likely to utilize EBP.
4. Those respondents with shorter amounts of time since graduation are more likely to utilize EBP.
5. Those respondents with more positive attitudes about EBP are more likely to utilize EBP.
6. Those respondents that report formal training are more likely to utilize EBP.

7. Of the predictors, EBP skill level will be the best predictor of EBP Use.

Sample

In order to arrive at the appropriate sample size, the researcher looked at several models of determining sample size, specifically those related to linear regression, as that is the most rigorous test conducted in this study. First, it was estimated that there will be no more than seven variables in the regression, which includes training, skill level, attitude about EBP, and years since master's level graduation; as well as possible demographic variables, primary practice area, type of agency, and type of agency funding. According to Green (1991), using Harris' rule of thumb calculations, $N \geq 50 + 8m$, would yield a sample of at least 106; and using Green's rule of thumb, $N \geq L/f^2$, would yield a sample size of 103, if L(lambda)=15.5 and f^2 [R^2 /(1-R^2) for a medium effect size]=.15. Green's rule of thumb is patterned after Cohen's power analysis, which according to Cohen's tables (Green), a study of seven predictors would require a minimum sample size of 102. A common rule of thumb used to calculate appropriate sample size is ten respondents per identified variable (Maxwell, 2000). This model would mean a sample size of only seventy. Because this sample size is too low for most statistical tests to be accurate, this rule of thumb will not be employed. A sample size between 102 and 106 takes into account an alpha of .05, a medium effect size and the power of .80, traditionally acceptable for social sciences, and recommended by Cohen (1992). With this sample size ($n \geq 102$), the researcher is able to assume accuracy of the statistical tests incorporated in the study (Rosenthal, 2001).

The sample is purposive in that the target is master's level social work practitioners in the state of Texas. The participants comprise a convenience sample, in that respondents are obtained from available gatherings of master's level practitioners and email listings. This is a snowball sample in that many practitioners were contacted by participants who completed the survey and forwarded the link. Generalizability can not be established as this is an exploratory study and the sample is non-random.

Data Collection

Data were obtained through various avenues. The survey questionnaire was established on the web with the online system *Survey Monkey*. In this way, the survey could be easily accessed, completed, and collected. *Survey Monkey* saves each completed survey so that researchers can download and print them. In this study, completed surveys were printed, coded, entered, and locked away in a file. Individuals must have an accurate username and password to access data. Upon inputting data, an assistant to the researcher systematically reviewed the data input for accuracy. Five mistakes were found and corrected.

Practitioners were contacted via email with a link to the survey. Respondents were obtained from the university's school of social work field placement instructor's email listing and a neighboring city's NASW chapter listing. Additionally, respondents were contacted through continuing education programs and local workshops. A snowball sampling was in effect as a result of three practitioners sending an email and the link to other master's level social work practitioner groups. Because these practitioners are involved in professional activities, this group should be most likely to

access training opportunities in EBP. In order to obtain the needed number of participants, an email with the link to the survey was re-sent to practitioners from the list of field instructors, an individual practitioner's agency group, and the neighboring city's NASW list, two weeks after the initial request. Prior to contacting respondents, permission to conduct the study was obtained from The University of Texas at Arlington's Human Subjects Review Board.

Survey

The instrument is a researcher constructed, self-report questionnaire (see Appendix C, along with consent form) comprised of questions and subscales from McColl, Smith, White & Field (1998) and Upton & Upton (2005). It is based on a comprehensive review of previous studies, two other published surveys on evidence-based practice from the medical field in the UK, and the information needed in research questions. The researcher developed a preliminary questionnaire based on questions that emerged from the literature review, and then began searching for appropriate surveys to fit the research needs. Because surveys from the field of Social Work that addressed the process of EBP could not be located, surveys from the medical field were utilized. The researcher then requested and obtained permission by the creators, to use both of these questionnaires for research purposes. The researcher has requested feedback about the survey from area master's level social workers for discrepancies and oversights.

Instrument Reliability and Validity

The instrument being used was created by the researcher and based on two other questionnaires (McColl, Smith, White, & Field, 1998; Upton & Upton, 2005). McColl,

Smith, White and Field's questionnaire was formulated in the UK in 1998 in response to a need to know perceptions of practitioners in the medical field. A study validating this questionnaire was not found; however, this questionnaire has been used and referenced in other studies such as Jette et al. (2003), Iles and Davidson (2006), and Bennett et al. (2003) with similar results, indicating some reliability. This entire questionnaire was used, except for the sections on research terminology, medical journals and demographics. The attitude scale of this questionnaire has been modified for statistical analyzing purposes.

The Upton and Upton (2005) questionnaire, entitled Evidence Based Practice Questionnaire (EBPQ) was also developed for the medical field in the UK. A study was completed for the purpose of testing the validity and reliability of the questionnaire. The researchers ran a Cronbach's Alpha for the three subscales and for the entire questionnaire. A score of .87 was obtained for the entire questionnaire, indicating internal consistency. The subscales included in this study were for use of EBP and skills. Those scores had 85% and 91% internal consistency respectively. According to Rubin and Babbie (2005), reliability scores above .80 indicate good internal consistency.

For validity, the researchers compared the score of this questionnaire to an independent questionnaire and received a positive, moderate correlation. They also compared t-test means of those who knew about their initiative and those who did not and obtained significant difference in scores, indicating discriminate validity. The entire questionnaire was used except for the attitudes subscale and demographics. Because

validation was based on the entire questionnaire, exclusion of these parts could prove to weaken its composite validity and reliability. However, of the three subscales in the questionnaire, the subscale excluded had the lowest score of 79% reliability.

Variables

Survey variables were chosen based on their relationship to the use of EBP, which is this study's dependent variable. Use of EBP is determined by the independent variables illustrated in the research model shown in Appendix A. Survey variables are divided into practitioner and agency demographics, support of EBP, research skills, and use of the EBP process, as well as other information pertaining to the practitioner's practice. Practitioner characteristics variables include gender; ethnicity; practice area such as clinical, school, addictions, higher education and community; private practice involvement; and years since graduation from a master's program. Agency variables include type of social service, such as child welfare, mental health, youth, school, or hospital; number of master's level practitioners employed; size of agency as determined by number of employees; and primary funding type, such as federal, state, donations, client fees, or private grants. These variables will be included in the demographics section of the survey.

The dependant variable, *use of EBP*, is defined as the extent to which the practitioner uses EBP process in practice. For purposes of this study and a linear regression, use of EBP is indicated by Upton & Upton's *EBP Use* subscale, which measures the extent to which practitioners report use of the five-step EBP model, as outlined by Sackett et al. (2000). This subscale has six Likert scale items. Respondents

are given nine options for each item, ranging from "never" to "frequently". Higher scores indicate higher levels of Use. As no mean score has been established to distinguish levels, median scores will serve as a gauge, for the purpose of categorization. This subscale was tested for validity and reliability by Upton & Upton and has 85% internal consistency. The entire survey, including this subscale was termed valid, as outlined in the reliability and validity section of this chapter.

Table 3.1 shows independent variables and the respective questions in the questionnaire. In the following, find independent variables operationalized and ways they are measured in the survey. Four of the independent variables, EBP skills, attitudes of practitioners, years since graduation, and formal training are measured as predictors of EBP Use on a linear regression.

Table 3.1 List of Variables

Variable	**Measured by Q#**
Personal attitudes of evidence-based practice	1 (subscale)
Attitudes of colleagues	2
Use of Evidence-based practice	3, 9-14, 4 (subscale)
Barriers to use EBP	6
Formal Training in EBP	19-21
Sources of intervention research	15-17
Theoretical approach of practitioner	7-8
EBP skill level	5 (subscale)

EBP skill level is indicated by a scale (a portion of the Upton scale) that allows the respondent to rate their level of skill in areas of EBP. It includes skill level in researching, using the internet, evaluating practice skills, establishing a research question from needed information, identifying gaps in practice, retrieving and analyzing

evidence, determining validity and usefulness of information, and disseminating learned information. According to the theory of self-efficacy by Bandura (1994), it is skill level that determines the probable level of EBP Use. The skills subscale is a fourteen item Likert scale with seven possible responses ranging from one to seven, with seven being the highest score. Respondent scores will be added to reveal a score. Higher scores indicate higher skill level. As no mean score has been established to distinguish levels, median scores will serve as a gauge, for the purpose of categorization. Upton & Upton (2005) tested this subscale and found a reliability score of .91 and a moderate correlation. Skill level will be a possible predictor of EBP Use.

Personal attitudes of EBP is indicated by respondents' report of his or her own feelings about EBP, and includes answers to how they describe their own attitude, how useful they think research is to clients, to what extent they think EBP improves client care, and the value of EBP and its worth in light of practitioner work loads. McColl's set of questions have been transformed into a subscale for the purpose of statistical testing, and scores will indicate the extent to which it is a predictor of EBP. This is a five-item subscale with Likert-type responses ranging from one to five, five being the best. The last two items of the subscale will be reverse coded and responses will be added to reveal a score. Higher scores indicate more positive attitudes. As no mean score has been established to distinguish levels, median scores will serve as a gauge, for the purpose of categorization. Reliability of this particular subscale had not been previously documented by its creators, yet was included in a statistical analysis using this sample (see finding section). However, Jette et al. (2003) calculated reliability

using a similar attitudes subscale based on McColl's questions addressing attitude. They used an intraclass correlation where 50% of the questions had coefficients >70.

Amount of *time since graduation* is also measured in terms of years practicing with a master's degree in social work, which is included in the demographics portion of the survey. According to the literature (Iles & Davidson, 2006; Jette et al., 2003), practitioners with fewer years since graduation (five years or less) were more likely to use EBP. It is expected that respondents' answers in this sample will indicate a relationship to practitioner's use of EBP, and serve as a possible predictor of EBP Use.

Formal training is defined as training received, such as college credit or continuing education. It is measured by questions 19-21. Any scores of "yes" will indicate training and used as a possible predictor of EBP Use.

Included in the survey are also the respondents' thoughts of colleagues' attitudes, respondents report on needed and attained training in EBP, and theoretical approaches. Barriers to implementation are defined as aspects of the EBP that make it difficult to utilize. In the survey, barriers are measured by MColl's list of barriers. Those characteristics include time limitations, lack of support from colleagues and administration, unavailable research, limited access and understanding of research, and difficulty in integrating EB interventions. Respondents report importance of each barrier in rank order, with one being most significant barrier. Respondents' report of prevalence of barriers will provide implications for challenges to overcome. Consistent with Upton and Upton (2005); Jette et al. (2003); Bennett et al. (2003); McColl, Smith, White, and Field (1998); and Iles and Davidson (2006), time limitations are expected to

emerge as most prominent. Information gained in these responses will be helpful in determining implications for social work practice and EBP.

Data Analysis

This study's data analysis included descriptive statistics that inform on the characteristics of the professionals who participated as well as those practitioners who support and/or utilize an evidence-based practice, in terms of gender, type of practice, ethnicity, years since graduation, practice area, types of agencies, etc.

Upon completion of data collection, data was entered into an SPSS computer program where a statistical spreadsheet of variables had been placed (See Appendix D for variable codebook). All responses for each participant were entered for each of the variables. In order to have scores for the Use, attitude, and skills scales the researcher created new variables, of aggregate responses for each respondent. These are called *New Use*, *New Attitude*, and *New Skill*, respectively. Then in order to determine training, any "yes" response from the three questions concerning training, constituted the occurrence of formal training. The new variable *New Training* was developed by combining those occurrences of training. These four independent variables made up the linear regression model.

Inferential statistics were run in order to draw comparisons, using t-tests and ANOVA for demographic information such as practice area, private practice involvement, type and size of agency, funding source, as well as theoretical approaches, and sources of information. Variables were means tested for significance. Any of these

variables that indicated significance were then run in a multiple linear regression as control variables to determine prediction of EBP Use.

Additionally, a Cronbach's Alpha was run on the three subscales for attitude, EBP Use and skill level. This demonstrated level of internal consistency of the measures.

The purpose of this study is to identify predictors relating to use of the EBP process, resulting in knowledge needed in order to enhance EBP Use in social work practice. First, frequencies were calculated on demographics, and scores were calculated on the subscales relating to dependent and independent variables. A linear multiple regression model was used to determine prediction of EBP Use, controlling for significant demographic variation. In the end, the variable(s) with the most significant prediction for EBP Use emerged as prominent.

CHAPTER 4

STUDY FINDINGS

This chapter presents the findings of this study that investigates practitioner experiences and perceptions of evidence-based practice, and practitioner characteristics that predict EBP Use. Findings for tests run that define the variables of the study sample are included. Also included are tests that determine predictability of EBP usage. Statistical tests were determined based on the study hypotheses and are reported in reference to each hypothesis.

A snowball sample of Texas social work practitioners was collected in addition to a purposive sample of UTA field instructors. In addition to the field instructor list of practitioners, three practitioners sent the link to the survey to their own lists of social workers, creating a snowball effect. Because of the nature of snowball sampling, there is no way of knowing how much duplication there may have been between groups. Practitioners sending out the email and link to their practitioner lists were reluctant to give their lists directly to the researcher, instead choosing to send out the link themselves. Combining the field instructor's list and the snowball sampling, it is estimated that about 588 practitioners were contacted via email and link to the survey. However, at least 93 of those emails were undeliverable, so total contacts equaled 495. Assuming no duplication of email addresses, the response rate for this study was approximately 28%, which is consistent with social science research and other similar

studies (Edmond, et al, 2006; Rubin & Parrish, 2007; Stevens, et al, 2005; Woody, et al, 2006). The number of surveys completed by respondents was 140.

Demographics

Individual demographics included information such as gender, ethnicity, degree, years since master's graduation, and practice area. The majority of the study sample was female and Caucasian, as indicated in figures 4.1 & 4.2. In the study sample, 81% were female, while only 19% were male. Regarding ethnicity, 86% were Caucasian, 14% were African-American, Hispanic, Asian or other.

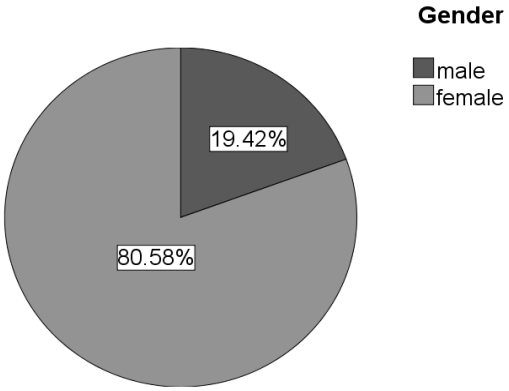


Figure 4.1 Gender

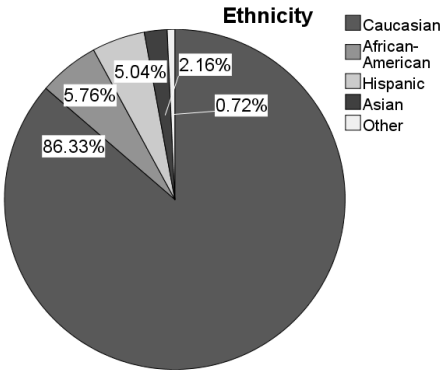


Figure 4.2 Ethnicity

Respondents were asked to select the type of degree they held from a list consisting of BSW, MSW, DSW, and PhD. The majority of this study's respondents were MSWs. The following figure 4.3 reveals the sample breakdown of the degrees held.

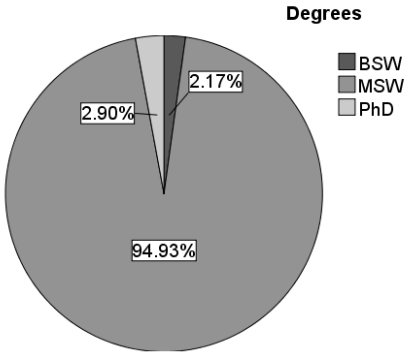


Figure 4.3 Degrees

Years since graduation was reported as a continuous demographic variable. Respondents were asked the number of years since graduation with a master's level degree in Social Work. As figure 4.4 reveals, 26% (n=36) of the total respondents reported being within 5 years post-graduation with MSW degree. There were 37% and 31% respondents graduating between 6 and 15 years, and sixteen plus years, respectively.

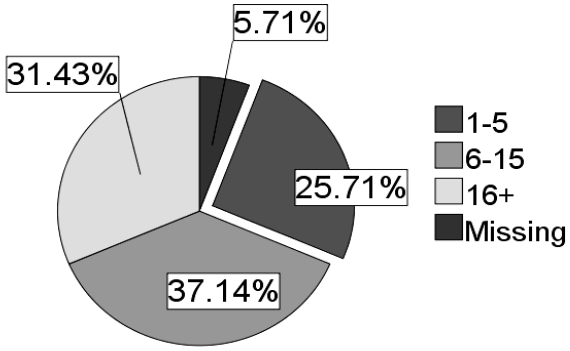


Figure 4.4 Years since Graduation

There was an interesting range of practice areas, as indicated in figure 4.5. Respondents reported being employed in the following areas of practice: clinical (40.7%), school social work (7.9%), addictions (5.7%), social work education (5.8%), community practice (19.3%), and others (39.3%) which included law enforcement, child welfare, housing, medical, administration, and crisis management. Despite the fact that almost half of the sample reported being in clinical practice, only 13.6% of cases reported part or full-time private practice.

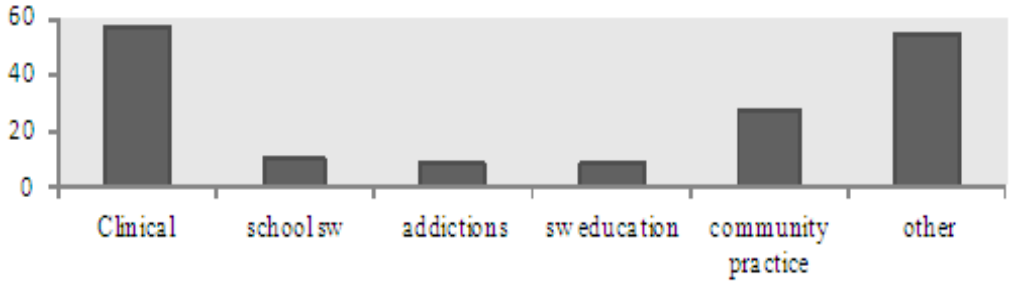


Figure 4.5 Chart of Practice Areas

Agency demographics included type and size of agency, number of master's level social workers and source of funding. In addition to identifying the practice setting, respondents reported on the type, or primary function of their agency. Agency types included in the "other" category, based on qualitative reporting, consisted of: the medical field, community social services, government, legal services, and self-employment or contract.

According to respondents' comments, agency types in the "other" category overlapped with some of those categories provided by this researcher. For example,

some respondents indicated being in a medical-based agency instead of choosing the "hospital" setting. Table 4.1 illustrates frequencies, and reveals that the largest category of the agency settings was the "other" category (43.2%)

Table 4.1 Table of Agency Settings

Agency Setting	**#**	**%**
Child welfare	28	20.1%
Community mental health	15	10.8%
Youth	17	12.2%
School (K - 12)	12	8.6%
Hospital	31	22.3%
Other	60	43.2%

Respondents reported agency funding from many sources including federal (48%), state (54%), fund raising or donations (31%), client fees (30%), private grants (23%) and others (23%) which included county, taxes, United Way, and insurance. Most in the study sample reported size of their agency having fifty or more employees (59%). However 54% of the responses indicated that their agencies employed under ten master's level social workers (n=72).

Other Sample Information

Sample information on the dependent variable, EBP Use, revealed that scores ranged from six to fifty-four, with a higher score indicating higher levels of use. The mean score was 31.90 and the mode was 36, with a standard deviation of 12.07. Because the makers of the EBP Use scale did not establish a standard score that indicated high or low use, this researcher discusses high use in terms of those above the

median score, which is any score equal to or greater than 33.5. *The majority of this sample (n=60 out of a 116 respondents) scored greater than or equally to 33.5.*

For the purpose of further categorization, this researcher divided the scores into three categories of high, medium and low use. Scores ranging from 6-18 was considered low use, scores ranging from 24-36 were considered medium use, and high use were scores from 42-54. The majority of the respondents fell into the "medium" category, as illustrated in the findings of the first hypothesis.

Comparing means of demographic variables and other independent variables in the study, there was no significant difference in the following:

- For gender, a t-test revealed no significant difference in terms of EBP use ($t(114)=.564$, $p=.574$)
- For ethnicity, an ANOVA revealed no difference ($f(4,111)=1.705$; $p=.154$).
- For age, an ANOVA revealed no difference ($f(2,106)=.045$; $p=.956$).
- For rate of private practice, an ANOVA revealed no difference ($f(2,113)=.322$; $p=.726$).
- For size of agency, an ANOVA revealed no difference ($f(3,109)=.642$; $p=.590$).
- For degree, an ANOVA revealed no difference ($f(2,111)=1.086$; $p=.341$).
- For agency type, an ANOVA revealed no difference ($f(5,109)=.897$; $p=.486$).

- For practice area, an ANOVA revealed no difference (f(4,81)=.350; p=.843).
- For funding, an ANOVA revealed no difference (f(6,108)=2.103; p=.059).
- For number of MSWs on staff, there was also no difference in an ANOVA analysis (f(4,107)=.480; p=.751).
- For attitude of colleagues, an ANOVA revealed no difference (f(2,109)=1.691; p=.189).
- And for theoretical foundation of practice, an ANOVA revealed no difference (f(8,100)=1.462; p=.181).

Because Ethnicity in its five categories (Caucasian, African American, Hispanic, Asian, and other) was not found to be significant in an ANOVA test comparing EBP Use, this researcher then combined the categories into Caucasian and Non-Caucasian and performed a t-test. This test did reveal a significant difference in EBP Use (t(114)=2.15, p<.05). This test indicates that Caucasian respondents scored higher on EBP Use by 7.08 points. See t-test output in Appendix E. This demographic will be used as a control variable in a regression analysis of EBP Use.

There was also a significant difference in the primary source of information used by practitioners (f(4,85)=4.19 ; p<.05). A Tukey post hoc analysis shows that there is a difference in use between those who use journals (m=36.73, sd=12.91) and those who chose the "other" (m=22.14, sd=11.71) category, which included text books, experience, agency policy documentation, and supervisor knowledge. There was also a

difference between those who used databases (m=41.9, sd=8.17) and those who choose "other". This indicates that those using journals for their primary source of knowledge scored higher than those who used other sources such as text books or supervisor knowledge, by 14.59 points. It also indicates that those who utilize EBP databases and systematic reviews scored higher on EBP Use than those who indicated other sources of knowledge by 19.76 points. See ANOVA output in Appendix E. The primary sources of knowledge journals and databases/reviews will be used as control variables in a regression analysis.

Independent variables EBP skill, attitude, and training can be illustrated in the same way. In terms of EBP skill level, this sample ranged from 42 to 98, with higher scores revealing higher skill levels. The sample mean was 72.9 and its mode was 80 with a standard deviation of 1.19. *The majority of this sample (n=58 out of 112 respondents) had scores above the median of 72.5, revealing higher levels of skill.*

Attitude scores ranged from 11-25, with higher scores indicating a positive attitude toward EBP. This sample's mean was 18.75, and its mode was 20, with the standard deviation of 3.02. *The majority of this study sample (n=64 out of 120) scored above the median score of 19, indicating more positive attitudes.*

Similarly, most respondents reported receiving some training in EBP. Of those who responded (n=79), 83.5% reported having had some training and 16.5% had not received any training.

Hypotheses Testing

Hypotheses #1 predicted, **"There will be low levels of EBP Use among the respondents"**. To test this hypothesis, frequencies were run on scores received by respondents on the EBP Use instrument, in order to evaluate pervasiveness of EBP. In the instrument, respondents were given six statements to which they were to respond. Responses ranged from one to nine. The developers of the Use subscale did not establish a range for high or low use; therefore, categories of high, medium and low use were adopted by this researcher (Upton & Upton, 2005). Combinations of responses from one to three would give a score of 6-18 (low use), response scores ranging from 24-36 indicate medium use, and high use are scores from 42-54. Chart 4.6 shows the frequencies of scores in EBP Use. More than half of the respondents scored in the medium range (n=62), and only 19% of the respondents scored in the low range (n=22). In fact the low score group represented the smallest group. ***Therefore this hypothesis was not supported for this population.***

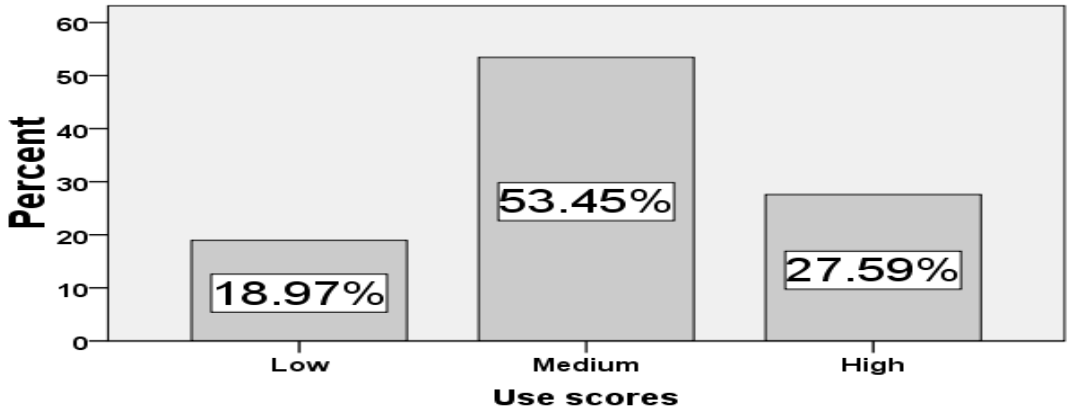


Figure 4.6 Chart of EBP Use

Hypothesis #2 predicted, "**Of the barriers to implementation reported by respondents, time limitations will emerge as most prominent**" and was analyzed by frequencies to determine extent of each barrier to EBP Use. In order to locate the barrier that emerged as most prominent, respondents ranked the barriers, one (1) being most prominent and eight (8) being the least prominent or important for the practitioner. Then mean scores were derived in order to establish overall ranking. Barriers with lower scores will indicate more importance, as those barriers were ranked with a "one" or a "two" more often than the other barriers. Higher scores indicate less important barriers, i.e. barriers less likely to get in the way of EBP. The following (Table 4.2) reveals the means for each of the known barriers, based on ranking of the respondents. In order of prominence, the barriers were: time, terminology, lack of support from administration, unavailable research, intervention difficult to integrate, difficult to access, lack of support from colleagues, and lastly, research difficult to understand. ***Therefore the hypothesis that time limitation would be the most prominent barrier, was supported in the research.***

Table 4.2 Practitioner Barriers

Reported Barrier	Mean
Time limitation	2.8713 (n=101)
Terminology does not fit practice question	3.9091 (n=99)
Lack of support from administration	4.0745 (n=94)
Unavailable research in needed topic	4.1165 (n=103)
Difficult to integrate new intervention	4.3939 (n=99)
Research difficult to access	4.4255 (n=94)

Table 4.2 - continued

Lack of support from colleagues	4.5051 (n=99)
Research difficult to understand	4.8191 (n=94)

Hypothesis #3 was **"Those respondents with higher levels of EBP skills are more likely to utilize EBP."** Skill level was measured in this study by an EBP Skills Level subscale developed by Upton & Upton (2005). It is a 14-item scale in which respondents are given seven possible responses from which to choose. Responses were then summed to reveal a score. Higher scores indicate higher skill levels. In order to test whether or not Skill is a predictor of EBP Use, a simple linear regression was run. In a this regression model running only skill level with Use as dependent variable, skill level is shown to be a statistically significant predictor or EBP Use, as shown in table 4.3. In this simple linear regression, skill explains 35% of the variation in EBP Use (β=.593; p<.05). Stated differently, 35% of the respondents' use is due to respondents' skill level. See Appendix E for regression tables. ***Therefore, this hypothesis is highly supported in this study.***

Table 4.3 Skill as Predictor

Regression model with Use as dependant variable and Skill at predictor	
R Square =	.352 @ .000 level of significance
β=	.593

Hypothesis #4 states: **"Those respondents with shorter amounts of time since graduation are more likely to utilize EBP."** In the study survey questionnaire, respondents were asked to indicate number of years in professional practice since

graduation from an MSW/MSSW program. In order to know if *years since graduation* has any influence on use, a simple linear regression was calculated. Table 4.4 illustrates that finding. In order for this variable to be supported, there must be a significant, negative correlation. This would reveal that as the number of years decreased, the use score increases. This finding shows a positive increase, but very small and not significant. In this regression model, years since in professional practice accounts for less than 1% of EBP Use and is not statistically significant (β=.048*; p*=.622), indicating that years since graduation has no influence on EBP Use. See Appendix E for Regression tables. ***This finding does not support the hypothesis.***

Table 4.4 Years Since Graduation as Predictor

Regression model with Use as dependant variable and Years in professional practice as predictor	
R Square =	.002 @ .622 level of significance
β=	.048

Hypothesis #5 states: **"Those respondents with more positive attitudes about EBP are more likely to utilize EBP."** On a subscale developed by McColl et al (1998), respondents were given a five-item subscale that measured their attitude concerning EBP. Respondents were given up to five choices in responses, with five being the highest. The last two items of the subscale were reverse coded so that higher scores indicated more positive attitudes regarding EBP. In a simple regression model, Attitude accounts for 21% of the variation in EBP Use, and is a significant predictor of EBP Use (β=.461*; p*<.05). Therefore, 21% of respondents' use is influenced by the attitude they

have concerning EBP, as shown in table 4.5. See Appendix E for Regression tables. ***Therefore, this hypothesis is supported in this study.***

Table 4.5 Attitude as Predictor

Regression model with Use as dependant variable and Attitude as predictor	
R Square =	.213 @ .000 level of significance
ß=	.461

Hypothesis #6, **"Those respondents that report formal training are more likely to utilize EBP"** was measured in the study survey by a "yes" answer to any of three questions regarding training in EBP. It was tested by placing it in a single linear regression model. A regression study shows that training is not a predictor of EBP Use, as revealed in table 4.6. In a simple linear regression model, training accounts for less than 1% of the variation in Use and is not statistically significant (*ß*=.129*; p*=.267). Training is not a significant predictor of EBP Use. See Appendix E for regression tables. ***Therefore this hypothesis was not supported in this study.***

Table 4.6 Training as Predictor

Regression model with Use as dependant variable and Training as predictor	
R Square =	.017 @ .267 level of significance
ß=	.129

Hypothesis #7 states: **"Of the predictors, EBP skill level will be the best predictor of EBP Use."** In evaluating hypotheses #7, variables were used in a multiple linear regression in order to predict use of EBP in practice. Since no difference in EBP

Use was found between any of the demographics, they were not included in the regression. However, race (recoded as Caucasian and Non-Caucasian), source of information (recoded as journal vs. non-journal) and database use (recoded as use vs. non-use) were included as control variables.

Additionally, when the original regression study model was run, it was found that skill (ß=.501, p<.05) and attitude (ß=.248, p<.05) were significant predictors of EBP Use. This model accounts for 43% of the variance in EBP Use. Therefore, skill and attitude were also included in the multiple regression.

Table 4.7 illustrates that this model with Race, journal use, and database/systematic reviews as control variables for skill and attitude accounts for 42% of the variance in EBP Use. Of all the variables in the multiple linear regression, only one predictor, skill level, emerged as significant in this model. See Appendix E for regression tables. ***Therefore this hypothesis is supported in this study.***

Table 4.7 Skill as Best Predictor

Variable	ßeta	Significance
Race	.121	.164
Journal as primary source of knowledge	.129	.138
Databases/systematic reviews as source of knowledge	.060	.532
Attitude of EBP	.195	.058
Skill level	**.471**	**.000**
Model R^2	.423 (.387a)	

Other Findings

In the process of analyzing the data of this study sample, additional findings emerged that had no direct bearing on the hypotheses, yet are of interest. In this section,

those findings will be identified. The first of these findings concerns that of the frequencies of other independent variables, such as attitude of colleagues, theoretical approach, accessing EBP databases, primary source of EBP information, needs for implementation of EBP, and methods of implementation. These variables were separately derived from the survey instrument completed by respondents. This section will reveal descriptive and relationship information that will further inform the study. Included in this section will be qualitative comments made regarding survey questions, such as theoretical approach, research topics, needs for implementation, and months time since most resent search. Lastly, this section will examine relationships between variables, such as significant correlation between training and skill, or attitudes of colleagues and scores on the attitude subscale, for example.

Independent Variable Frequencies

The first variable of interest is respondents' perception of attitudes of colleagues. In the survey questionnaire, respondents are asked to categorize "the attitude of most of your social work colleagues towards evidence-based practice" and were given response choices of "Extremely supportive", "Somewhat supportive", or "Not at all supportive". Note that in figure #4, the majority of respondents reported their colleagues as being somewhat supportive (n=90). That is 77% of the sample. Extremely supportive and not at all supportive were 18% and 5%, respectively.

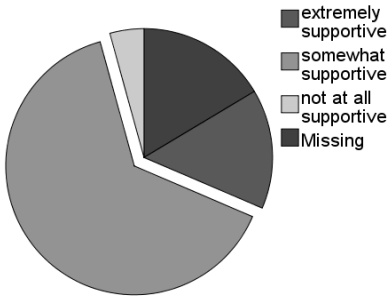


Figure 4.7 Colleagues' Attitudes

Respondents' primary source of EBP information was asked and provided with responses: journals, web, systematic reviews, research databases, conferences/workshops, and other. The category with the most responses for their primary source of EBP information was "conferences and workshops" (n=36) at 39%. This was followed by the web (24%), journals (17%), research databases (10%), other sources as commented by respondents such as textbooks, employer, state guidelines, and professional training and that of colleagues, (8%), and lastly, systematic reviews (1%).

When asked where respondents access the web and databases, respondents reported the following, as seen in figure 4.8: Regarding accessing the web, most respondents reported their primary location being their office (63%). Very few did not have access to the web (5%). Of those accessing Campbell (an EBP database), some reported accessing it at work (13%), but most did not access Campbell (65%). Interestingly, few accessed Campbell from a local university library (10%).

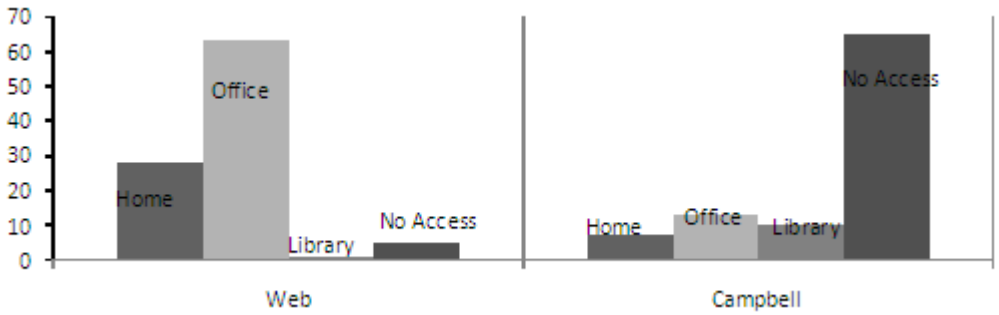


Figure 4.8 Access to Web/Campbell

In the past year, only forty-eight respondents reported having conducted a search for interventions. And 72% of the sixty-eight respondents (n=49) reported never using a database to search for interventions or information to inform practice. Those reporting using a database from one to fifteen times in the last year, equaled sixteen; with only three respondents reporting conducting a search at least sixteen times in the past year. Interestingly, these findings result from a sample of which most were moderate or high EBP Users, based on findings previously reported in this chapter.

Respondents were asked what they would need in order to implement an EBP, and were given the following choices: training, smaller caseloads, access to the web, access to current research, financial resources, and other needs stated in their own words. Among the other needs were relevant research, support from administration, and time. Figure 4.9 illustrates this finding. As shown, training was the resource most needed by practitioners, followed by current research and smaller caseloads.

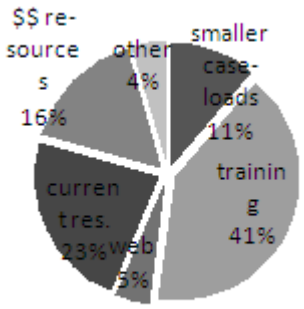


Figure 4.9 Needed to Use EBP

Theoretical approach to practice (figure 4.10) yielded an interesting distribution. Cognitive Behavioral was the theoretical approach with the most responses, (33%); followed by Solution-Focused (28%). After those, in order of prevalence was, Eclectic (18%), Task-Centered (8%), Behavioral (5%), other theoretical approaches, Family Systems and Ecological, (4%), Group work (2%), and Macro Change (1%).

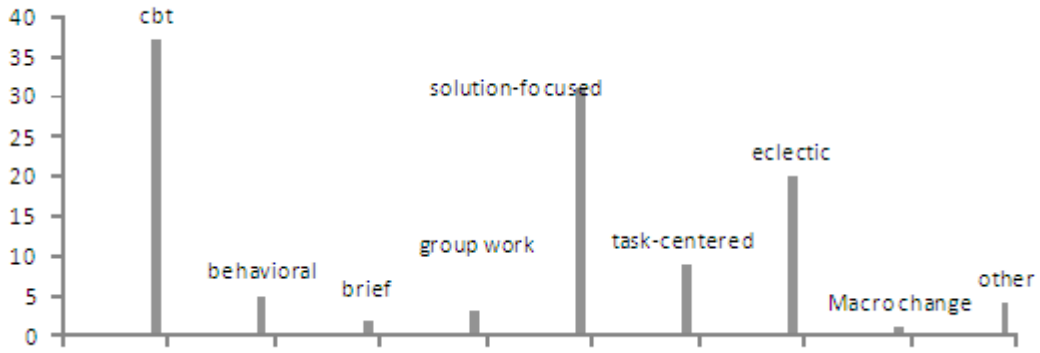


Figure 4.10 Theoretical Approaches

Significant Correlations

Because EBP Use is the study dependent variable, this researcher examined its relationship to other variables in the study. For variables not used in the process of assessing prediction, there were no variables having a significant relationship to EBP Use. However, correlations run for all variables in the original regression model indicated that EBP Use is moderately correlated to skill and attitude, as revealed in table 4.8.

Table 4.8 Independent Variable Correlations

Correlations: EB Use (n=115)	Skill (n=107)	Training (n=75)	Attitude (n=112)	years in prof. practice (n=108)
Pearson's R=	.593	.129	.461	.048
Significance at .05 level	.000	.267	.000	.622

When considering relationship of the independent variables in the original regression model to be tested (skill, attitude, years in since master's degree, and training), this researcher noticed interesting relationships. In order to observe a significant relationship, a correlation was run with skill, attitude, years since master's degree and training as variables to compare. Skill, attitude, and training were correlated. This tests shows a moderate, positive association between skill and attitude ($r(107)=.432$, $p=.000$), indicating those respondents who were high in skill had positive attitudes regarding EBP, over and above the other combinations of variables. This correlation test also revealed a weak positive association between skill and training ($r(76)=.227$, $p=.023$), indicating those who were high in skill were likely to have had training. Interestingly, although skill was correlated with training and attitude, training

and attitude were not significantly correlated ($r(76)=.163$, $p>.05$), indicating no connection between respondents' training and attitudes regarding EBP. Years since graduation was not significantly correlated with any of the other variables.

In order to gain more information concerning skill level, a Pearson's correlation was run comparing skill level and the six items that respondents reported needing in order to implement EBP into their practice. Of the six, only the need for more training was significant with a weak, negative association ($r(97)=-.258$, $p=.010$), indicating that those high in skill level did not report needing EBP training.

Reliability of Subscales

The attitude subscale was generated from questions in the McColl et. al (1998) survey. In order to test this set of five questions as a reliable scale, a Cronbach's Alpha was run and revealed a score of .769. This indicates an adequate internal consistency, based on Bohrnstedt & Knoke (1994).

The EBP Use subscale, established by Upton & Upton (2006) has six items and after being tested for reliability, was shown to have a Cronbach's Alpha score of .902. This demonstrates high internal consistency (Bohrnstedt & Knoke, 1994; Rubin & Babbie, 2005). This finding is actually higher than Upton & Upton's reliability analysis of 85% internal consistency when used in the medical field.

The EBP skills subscale, also established by Upton & Upton (2006) has fourteen items. When tested for reliability, a Cronbach's Alpha score of .905 was revealed, which is high internal consistency. Again this score is higher than Upton & Upton's

reliability score of 91% internal consistency. Please see Appendix F for reliability tables.

Qualitative Findings

Respondents were given opportunity to comment on some portions of the survey. Many categories among the survey questions marked "other" have previously been reported, such as practice areas, funding, and sources of information. Examining barriers to EBP Use, a few comments were reported. Respondents commented that research is "old" and "grant driven", "boring" and "irrelevant". Another commented that the number one barrier is financial limitations.

The study questionnaire asked respondents to report on the prevalence of formal training in EBP and EBP skills. Many respondents commented on the location of their training. The following are some of the aggregated responses: a state university, conferences and workshops, a large agency in the area, and a degree program. Of those responses, the vast majority reported were a state university.

There were sixty-two respondents who commented on topics that they have researched in order to inform practice. Among the topics were paranoid schizophrenia, substance abuse, personality disorders, community organizing, eating disorders, sexual abuse/assault, depression, childhood trauma, psychopharmacology, grief, adoption, and infant brain development.

Respondents were asked if they thought EBP was compatible with their existing theoretical approach to practice, and why or why not. As to reasons they agreed, respondents offered comments regarding relevancy, including, "it provides (additional)

researched based criteria for assessment, (treatment) recommendations, and evaluation/outcome"; and "There is data available on successful outcomes from using cbt [sic]" And "(EBP) seems to verify the family systems model." Regarding reasons respondents do not agree, were comments such as "…I have not been able to find EBP for the group population that I work with" and "(if) you limit your practice to those methods prescribed by the research, you do a disservice to your clientele."

Respondents were asked to comment on how EBP could be further facilitated in their own practice. To this, fifty-four comments were collected. In order to give a summary of the responses, the researcher sorted each comment into appropriate categories. What emerged was comments regarding the following:

- more time, such as "time to educate myself" and "time to evaluate programs" and "time and skills to appraise the literature";
- training, such as, "better understanding of evidence based practice" and "In house training" and "presentation to administrators";
- support from administration, colleagues or employees, such as "through administration promotion", and "all staff should be involved";
- more research conducted or better access to research, such as "empirical articles to change and improve", and "more research on topics addressed in my daily practice", and "more evidence to promote success";
- protocols/guidelines, such as "If there were protocols as in medicine";
- practice evaluation, such as, "By identifying what I do in relation to my clients that tends to make me most effective";

- integration of what is already known, as well as integration of new research, such as, “utilizing brief therapy interventions”; and
- practitioner awareness, such as “ by being aware of the need”.

Finally, respondents were asked to offer suggestions on improving the implementation of an EB approach in practice, in general. Respondent comments were similar to comments given to the question of needs in order to integrate EBP into their own practice. Again, the researcher, sorted comments based on appropriate categories, allowing those categories to emerge. Those categories were access to research, time, training, relevant research, agency support, financial resources, and an integration plan. The following is a sample of those comments:

- “Make information more easily accessible to non-profit agencies who cannot buy memberships to major databases…”
- “For researchers, figure out how to present your information in a user-friendly way.”
- “Access at work.”
- “ training would be ideal”
- “Make sure that everyone in the agency in on board.”
- “Develop strategies for implementation and coaching personnel throughout the process of implementation/training.”
- “More regular dissemination of systematic research findings to social work practitioners via conferences and web-based summaries.”

Further examination via qualitative sorting and coding would allow empirical testing to draw conclusions regarding these recommendations, and their relationship to EBP Use. However that research is beyond the scope of this study.

Summary of Findings

This study consisted of mostly female, Caucasian, MSW practitioners in the state of Texas. Respondents practiced in several different areas of practice and in many different practice settings, in agencies funded by all levels of government funding, fees and private monies. Most of the respondents were not in private practice, but practiced in larger (50+ employees) organizations. Regarding organizations, most respondents stated that they think their colleagues are somewhat supportive of EBP in their organization; and that, of all of the reported elements needed in order to implement EBP, training emerged as most prominent. These respondents reported being theoretically based mostly in Cognitive Behavioral Therapy, Solution-Focused or Eclectic. Concerning search that informs practice, half of the respondents reported generating a search within the last year. The majority of those answering the question of searching databases had never used an EBP database to search for interventions or evidence. In fact, in terms of information that informs practice, most reported getting their information from conferences and workshops.

In summary of the main findings, four of the seven hypotheses were supported in this study. The following are the main findings of this research study in respect to the research study's hypotheses:

- Findings support that time is the most prominent barrier to EBP Use.

- Findings support that EBP skill level is a predictor of EBP Use.
- Findings support that positive attitudes regarding EBP is a predictor of EBP Use.
- Findings support that EBP skill level is the best predictor-accounting for the most variability-of EBP Use.
- Findings did not support that there would be low levels of EBP Use among respondents.
- Findings did not support that times since graduation from master's level social work is a predictor of EBP Use.
- Findings did not support that training is a predictor of EBP Use.

In terms of other predictors of EBP Use, the demographic and independent variables, Caucasian, and the information sources of journals and databases/systematic reviews, were shown to be significant in t-tests and ANOVAs that served as control variables. However, none of these variables proved to be significant in a regression with all other significant predictor variables, when calculated together in a multiple linear regression. Additionally, Attitude, when run in a simple linear regression and in a regression analysis with other possible predictors, was found to be a significant predictor, however was not found to be significant in the last model. Only skill level was found to be significant when prediction was tested with all other variables.

CHAPTER 5

DISCUSSION OF FINDINGS

In this chapter, analysis and interpretation of the study findings will be discussed, as well as implications for social work practice, policy, research and education. Included will also be a discussion on this study's limitations and strengths.

Discussion of Demographics

Demographic information consisted of personal characteristics of gender, ethnicity, degree, years in professional practice since receiving master's degree, practice area, as well as agency characteristics of agency setting, funding, size of agency and number of MSWs in the agency. There was a diverse array of practice areas and agency settings, which are likely representative of the profession and an expectation of this study. It should be noted that this study revealed 42% of the respondents reported clinical practice, however only 14% of the total sample reported being in part of full time private practice. It is then assumed that those reporting clinical practice are employed in a mental health setting within larger agencies, such as psychiatric hospitals, addictions units, and community mental health centers. It is important to make the distinction between clinical practice and private practice.

This study's focus was on MSW practitioners; however, a few of the respondents reported a BSW as their highest degree (n=3) or PhD as their highest

degree (n=4). This study did have a majority of female (81%) and Caucasian (86%) practitioners. This finding was consistent with other studies conducted with the National Association of Social Workers (NASW). In 2004 the organization conducted a survey study of members divided by state. That study showed 60% of respondents were Caucasian (n=223) in the state of Texas (NASW, 2004). In other studies conducted by NASW in 2005 and 2007, demographic responses yielded findings of 87% and 86% Caucasian, and 80% and 83% female, respectively (Weismiller, Whitiker, & Smith, 2005; Arrington & Whitaker, 2008). Discussion as to the reason so few non-Caucasian responded in this study could only be speculative, however some research indicates that there is what is termed "digital divide" which states that non-white individuals are less likely to utilize computers and the internet then their White counterparts, or in the same ways (see Brown, 2003; Gorski & Clark, 2001; Wilson et al, 2006 for further discussion). Therefore, it is possible that non-White practitioners are less likely to respond to an online survey. There are approximately 1,740 master's level practitioners in the state of Texas. Exact gender and ethnic demographics are unknown; therefore, this researcher cannot address the representativeness of gender and ethnicity. But for purposes of this study, it is not the gender or ethnic break down that is under investigation, but the professional characteristics of the EBP user. This study is an important addition to the research knowledge concerning social work education's ability to enhance practitioners' and students' knowledge and understanding of EBP.

Discussion of Hypotheses

Hypothesis #1 stated that there will be low levels of EBP Use among the responses. This hypothesis was not supported in this study. The group of respondents was divided up into low, medium and high levels of use based on scores calculated on the EBP Use subscale, adopted by Upton & Upton (2006). It was expected that there would be low levels of use as previous studies indicated that practitioners were generally supportive, but did not utilize an EB practice for various reasons and barriers (Edmond, et al, 2006; McColl, et al, 1998; McGuire, 2006). This population proved to be different. The difference in findings could be due, in part, to the differing ways of measuring EBP Use. This being the only study that measured EBP Use in terms of the five-step EBP process, other studies may have measured use by simply asking respondents about their utilization of EBP or the percentage of use in more general terms. One reason for the difference in use is that this study sample was taken in a metropolitan area where there is access to universities that produce PhD level social workers, who in turn supervise master's level social workers. Also, there are few locations that offer EBP training. This location is one of them, however limited. Another reason is that a large organization in the metropolitan area has implemented an EBP throughout its organization, which includes several offices in the area. Another possible reason for the discrepancy in findings is that, although EBP is still new to the profession, it is beginning to be recognized, supported and used within agencies. Interestingly, although this study revealed moderate EBP Use, a small number of practitioners actually utilize the Campbell Collaboration of EBP interventions, as shown

in the "other findings" section of this paper. The Campbell Collaboration is a tool that is known to inform an EB practice.

Hypothesis #2 stated that among the barriers to EBP, time limitations would emerge as most prominent. The list of barriers from McColl et al (1998), are consistent with that of Sacket et al (2000). Respondents were asked to rank-order the barriers that they experienced, with one (1) being most challenging or important. Means calculations revealed that time limitations is indeed the most important or most bothersome barrier. This finding was expected and supported in the literature. McColl et al (1998), Jette et al (2003), Upton & Upton (2005), Iles et al (2006) and McGuire (2006) all found in their research study that time is a barrier for implementation. Most practitioners are reluctant to add a research component to the demands of heavy caseloads, paperwork, supervisory or administrative duties and any combination of these. Researching the web or databases or going to the library to do so is time consuming, especially when there may be limited payoff, in light of the fact that clients are being helped with the status quo interventions. Respondents reported time limitations in many ways. In the question asking what was needed in order to implement an EBP, respondents noted more time, in terms of smaller caseloads. There were also qualitative comments in the findings that suggest practitioners need more time or smaller caseloads. Related, respondents took opportunity to comment that research needs to be easier to access or use, or both. If this ease of access and use were provided, less time would be needed to review evidence, and the barrier would be reduced. On a broader note, practitioners would have more

time to access the evidence if agency funding was adequate to provide more practitioners. Available money to hire all adequate staff is an age-old issue.

Hypotheses #3-#6 are issues regarding the predictability of EBP Use. In these hypotheses, EBP skill level, years since graduation from a master's program, attitude regarding EBP and the acquisition of formal training are used as predictor variables for EBP Use. This model was chosen as a result of the literature's findings that these would be factors. These variables used together were to predict EBP Use. However findings from this study revealed differences.

Hypothesis #3 predicted that skill level would predict EBP Use. From Upton and Upton (2005), this subscale measured the level of skills needed to utilize an evidence-based practice process. Statistical tests indicate that skill level does, in fact, predict use in both a simple linear regression and multiple linear regressions. In all accounts, EBP skill level was significant to at least the .05 level of significance and depending on the model, at the .01 level. This was expected by the researcher and consistent with the literature from Upton and Upton in which general practitioners reportedly had lower EBP skills and lower rates of EBP Use. Upton and Upton noted that skill level is a factor in EBP Use. This finding is also consistent with the theoretical approach to this study. A learning theory was chosen because one purpose of the study is to generate implications for social work education and training. If EBP is to be embraced by the profession, schools of social work must teach it effectively. A learning theory serves as an organizing principle for what and how to teach. This theory is the theory of self-efficacy by Bandura (1994), which states that individuals will be able to

learn something new to the extent that one thinks he or she can accomplish the tasks or steps leading up to the identified goal. This finding supports the theory in that as respondents perceive mastery of EBP skills, they are able to use EBP. There is more than just strong correlation (r=.593, p=.000), but significant influence of skill on use. This finding alone had important implications for social work education. Here is a "blueprint" of critical appraisal skills needed to adapt an evidence-based approach to practice and can be taught systematically. EBP skill level accounts for 35% of the variance in EBP Use, therefore research is needed to establish and implement other significant factors that influence use.

Hypothesis #4 states that respondents with shorter amounts of time since graduation are more likely to utilize EBP. However, this prediction was not founded. It appears to make no difference in the amount of time since graduation from a master's level degree for this research sample, which was consistent with Iles & Davidson (2006). However, according to current research (Jette et al, 2003; McGuire, 2006) the more recent graduates were more likely to utilize an evidence-based approach. The rationale is that more recent graduates are more likely to have learned EBP skills during their degree program, as EBP is a relative newcomer to higher education. The difference in this sample could be due, again, to the nature of the location. This sample was drawn from a metropolitan area, where there is likely better access to information and training, regardless of years since graduation. Additionally, this sample was predominantly field instructors who have a responsibility to train field students. These practitioners may have access to EBP skills due to their affiliation with the university.

Another possibility is the influence, in the sample of PhD practitioners who have been practicing for many years and have a research approach to practice. It is possible that these individuals skewed the finding, as this is a small sample and any outlying responses will influence the findings considerably.

Hypothesis #5 stated that attitude regarding EBP is a predictor of EBP Use. Attitude was measured by a subscale created by adopting the McColl et al (1998) set of statements. For this study, the set of statements were grouped together to form a scale; and responses were totaled to generate a score. Interestingly, a positive attitude regarding EBP did prove to be significant in a simple linear regression for this study sample. It accounts to 21% of the variance. However, when put in a multiple linear regression with other significant variables, attitude is a not significant predictor over and above all other variables. A correlation tests shows attitude to have a moderate, positive association to EBP Use. This finding does not support the McColl et al finding that attitude influences use. There was not an expectation either way, as the literature suggests that positive attitudes among samples accompanied low use, as previously stated. This was also the case in studies of colleges and universities. According to Rubin & Parrish (2007) and Woody, D'Souza, & Dartman (2006), attitudes among most faculty and students are favorable towards the inclusion of EBP in the curriculum, however, actual teaching of EBP is not incorporated.

Hypothesis #6 predicted that training in EBP is a predictor of EBP Use. Training was measured by a "yes" answer to any training. It was expected that training be a predictor, in that if one is trained in an activity, he or she will implement that activity.

One study researching the differences in EBP Use among physical therapists reported that those trained scored higher on EBP Use (Iles & Davidson, 2006). For this study population, training was not a factor. This is possibly due to the small number of respondents (n=75, in comparison to the other independent variables that had respondents between 107 and 112) who answered the question. Logistically, the challenge was that this question was placed at the end of the survey, so those not completing the survey did not answer the questions. Additionally, some respondents reported having trouble maneuvering this question in its web-based structure. Additionally, in the qualitative portion of this question, some respondents reported that they received their training from conferences and workshops. This type of training can serve as an introduction to EBP and information concerning EBP, but unless participants of the training are able to learn the critical thinking and research skills, it will not be effective enough training to implement in practice. Also, learning in a workshop does not allow the participant to then learn the procedures/protocol of an identified intervention. Training needs to be in-house agency training or over a period of several sessions in order for participants to fully learn and subsequently incorporate the process of EBP.

The final hypothesis stated that when compared to all other significant predictors, EBP skills will emerge as the best predictor of EBP Use. This was tested by comparing means of demographic and independent variables, and then putting all of the significant variables into a multiple linear regression predicting EBP Use. From that regression, it was found that skill was not only the best predictor, but the only

significant predictor of EBP Use, over and above all other independent and control variables. This hypothesis was well supported for this study sample. In fact final model that included control variables significantly accounted for 42% of the variance in EBP Use. This again supports the underpinning theory of self-efficacy and has important implications for further study, education and training.

Discussion of Other Findings

In addition to a discussion regarding the hypotheses, observations were made concerning the frequencies and correlations that have implications to this study. First noted is the frequency of respondents' accessing databases, such as Campbell or Cochran. In this sample, 65% of those who answered the question reported that they never access databases such as Campbell. Also, less than 20 respondents accessed Campbell only 16 times in the last year. This limited utilization of the databases is consistent with the McColl et al findings studying physicians (McColl, Smith, White, Field, 1998). Interestingly, these databases are some of the most comprehensive locations for available evidence on interventions. Many of the databases are difficult to maneuver, therefore, training and practice is necessary to effective use. Consequently, implications for social work education exist in two ways. First, schools of social work could be an avenue for in-house EBP training for surrounding agencies. Secondly, schools of social work could partner with organizations to provide a link into university electronic libraries. Through such contracts, agencies or organizations that are unable to pay for the expensive subscriptions could access these websites and databases.

Independent variables from the regression model: skill, years since graduation, training, and attitude were tested for its association with EBP Use; but when tested for correlation to each other, interesting findings emerged. EBP skill was the variable of interest as it was found to be the predictor of EBP Use. This researcher was interested in that which it was associated. In a correlation study, skills had a significant, moderate positive association with attitude. This indicates that when attitude is high, skill is likely to be high, when EBP Use is excluded. When skill was correlated with training, tests showed a significant weak positive association. However, training and attitude are not significantly correlated. This finding had implications for education in that, along with EBP skills, practitioners and students must first be given an understanding of EBP's position in the field and its importance. It must be put in proper perspective as a way of enhancing practice, but not taking the place of client needs and client/practitioner relationships. Further research must be conducted in order to fill the gaps of knowledge regarding practitioner and student attitudes and its place in EBP education.

The Cronbach's Alpha scores of the attitude (α=.769), EBP Use (α=.901) and skills subscales (α=.905), indicates that these subscales were highly intercorrelated, particularly Use and skill, indicating the level at which items in the scale measure the same concept. In turn these levels of internal consistency strengthen the main finding that skill influences EBP Use.

Study Implications

The following outlines implications for the field of social work. Discussed are implications for social work policy, practice, research, and education.

Implications for Social Work Policy

Policy formation for the social sciences is generally led by the needs of the client. Governing bodies such as National Association of Social Workers (NASW) and Council of Social Work Education (CSWE) have mandated, for the sake of the client, that the profession of social work should embrace EBP.

Findings in this study, such as that of time and access to EBP research, indicate a need for professional policies to include simpler ways of accessing and understanding EB interventions.

- CSWE should consider going beyond the mandate of inclusion of EBP in the curriculum, to include specific ways to incorporate EBP; especially in terms of where to place search and appraisal skills.
- Organizations must begin to mold policy to include evidence-based interventions, and then provide appropriate training for practitioners in the identified interventions.
- Larger government organizations must require advanced practitioners to learn search and appraisal skills, as is being mandated by the federal government for policy analysis (Council for Excellence in Government, 2008).

Implications for Social Work Practice

These findings have important implications for social work practice, as this study gives practitioners a voice. Through this study, practitioners are saying that they generally support EBP, but need systems to change in order for them to feasibly shift to an evidence-based approach to practice.

- Practitioners need research that is accessible, understandable, that fits the needs of clients, and that is easy to apply.
- Practitioners are requesting training. However training must be more than informational and introductory. It must be hands-on and include search and appraisal skills.
- Practitioners must be given time within their workloads to search and incorporate the evidence-based practice process.
- Practitioners need organizational administration to provide financial resources for acquisition of research and training to implement the identified interventions.
- Practitioners must continue to find inroads of communication with researchers and academicians who disseminate research, so that the two entities can work together for the purpose of generating stronger interventions for clients and the broader society.

Implications for Social Work Research

Another implication is attention to emerging research questions. As a result of a review of this literature and research from this sample, more questions arise. These types of questions must be asked and researched in order for the profession to

effectively adopt EBP. At the 2006 national EBP symposium in Austin, professionals discussed and debated many issues around EBP. Some of these questions emerged there, as the field of social work continues to try to decide if EBP will be the next trend, or true identity of the field. As the process of integration in social work occurs, here are some questions that, if addressed, will serve social work well.

- Are practitioners that implement an EBP finding more practice success?
- Are schools of social work that implement an EBP approach producing more practitioners who actually continue EBP?
- Would training increase an *agency's* use of an EBP model? If so, what needs to be included in training for practitioners?
- Are professionals in social work embracing EBP at consistent rates as other professions, namely medicine, nursing, education, counseling and psychology?
- What are perceptions of MSW field students in their propensity to utilize EBP?
- Do MSW graduates of schools that teach EBP have the same attitudes concerning EBP as they did in graduate school?
- What type of EBP appears to be working best in the field, in terms of randomized controlled trials, other less rigorous studies, systematic reviews, or practice guidelines?
- How will the current practice's decision-making realities (practice experiences, primarily) compare to the future, as EBP gains ground?
- In light of the current research in EBP, how is EBP most effectively taught in schools of social work?

- How can new evidence be disseminated in a more accessible, user-friendly way?

A major research implication of this study is that research is needed on effectiveness of teaching EBP skills to students and practitioners, now that findings suggest the significant predictability of EBP skill level. Related, research is needed that discovers effectiveness of the type of training and educating of skills found in *this* study. In terms of attitude, research needs to be conducted that address operationalization of positive attitudes, and how it can be generated among practitioners and students. Replication research needs to be conducted for the purpose of establishing study validity and reliability that further support or refute these findings.

Lastly, the main implication is that because no other studies were found in the field of social work that measure EBP Use in terms of the five-step process of EBP, more studies need to be conducted in the field of social work. In the same vein, more research needs to be conducted that links EBP Use with EBP skill attainment. Again, no research was found that investigated EBP's implementation as a result of identified EBP skill level was found in the current social work literature. These types of research must be replicated in order for EBP to be effectively integrated into the field of social work.

Implications for Social Work Education

From this literature review come implications for SWE. In order for SWE to contribute to the growing integration of EBP, the following suggestions are made:

- Teach students critical thinking skills (Gambrill, 2006). Because of the national shift in higher education, in general, to produce outcomes of student achievement and to focus on higher order thinking skills, it is

conceivable that many schools of social work have already committed time and effort to this end. In terms of EBP, critical thinking skills contribute to practitioners' assessment and evaluation of EBPs in the process of locating interventions. Additionally, it is the EBP skills outlined by Upton & Upton (research skills, monitoring and reviewing of practice skills, converting information needs into a research question, awareness of major information types and sources, ability to identify gaps in professional practice, ability to review practice, ability to analyze critically evidence against set standards, ability to determine how valid the material is, ability to determine how useful the material is, ability to apply information to individual cases), that have the most impact on EBP Use.

- Train agencies to use EBP. Training was found in this study to be the component most often reported by respondents as needed in order to implement an evidence-based practice. Again, skill level was found to be the single most significant predictor of EBP Use. Schools of social work can be instrumental in the advancement of EBP by providing education for the communities. Training manuals can be created for agencies to implement internal trainings on EBP. Special attention can be given to supervisors and administrators, as there must be administrative support in order for EBP to be effectively implemented.

- Train students to become the 'EBP coordinator' for agencies (Cournoyer & Powers, 2002). This person would be responsible for helping practitioners format their questions to fit research, locate and access research findings and format findings for ease of use by practitioners. In this way, graduates of MSW programs can become an invaluable asset to the agency as EBP gains ground. Another reason for implementing a coordinator-type position is that time limitations emerged as the most predominant barrier of EBP Use, due to work that direct practice practitioners already have to complete.
- Encourage and prepare for the education of more doctoral level social workers so that an increased amount of research can be effectively conducted. This is important as a lack of research was fourth among the barriers to implementation and the second most important component needed by practitioners in order to implement EBP into their practice. Baccalaureate and masters level social work programs can better prepare and encourage students to continue in their education and experience by raising writing, critical thinking, and research standards; as well as begin EBP education in foundational courses.
- Provide special EBP training to field placement settings, and in so doing bridge the gap between classroom education and field education as many field settings do not utilize or even support EBP (Edmond et al., 2006). This is one way transfer of learning and life-long learning is

accomplished. It is also a way to keep positive relationships between field placement settings and the schools that utilize them.

- In terms of implementation in SWE, Scheyett (2006) cautioned schools of social work to teach EBP in such a way that it will not be misused. Students must be taught to evaluate its use in terms of its power to be used to coerce or be the standard for a practice in which client systems do not fit well with EBP, as clients can be harmed.
- Engage graduate students in publishable research (Proctor, 2006). In this way, students gain an understanding and appreciation for effective research, as well as gain critical thinking skills to evaluate strong research. Consequently, more research evidence will be available to practitioners.
- Partner with agencies and organizations to provide access to EBP databases. In examination of qualitative responses, practitioners commented on the high cost of access to databases, yet realized that these databases are sources of information. This study found that limited access was the sixth most important barrier to implementation, as reported by respondents. Additionally, researchers in the McColl et al (1998) study suggest provision of appropriate training and access to research are pivotal in increasing or improving EBP Use.

Study Limitations and Strengths

The following is an appraisal of this research study. Discussed are study limitations and strengths.

Limitations

The initial threat to this study's validity is that it is based exclusively on practitioner perceptions of their EBP Use and their skill level. The title of this study implies that there is little objectivity to the study in terms of agency documentation to support practitioners' responses. However, this is an exploratory study and should be view in that light. This researcher wanted to know about the subjective nature of EBP Use. It is this information-what practitioners think and understand-that will aid in the equipping and training of practitioners, if appropriate.

Another threat to the study validity is that the sample is not representative of the population, as a small proportion of the sample was male or non-white. Had there been adequate numbers of male or non-White participants, t-tests could have been utilized to investigate the statistical difference in EBP Use. Additionally, only one 140 practitioners out of a possible 500 responded; and that is out of possibly over 7,000 licensed master's level social workers in the state. This sample is very small in comparison to the population.

In terms of interval validity, another limitation is that this study's sample was not random and cannot be generalized beyond the study sample. Regarding respondents' voluntary status, this study does not control for the type of practitioners that do or do not complete surveys. Because of the self-selection process it is likely that

those choosing to participate in this survey either already have an investment in research or evidence-based practice, or they decidedly oppose the use of EBP. There is response bias, as these respondents are interested in EBP research and those not interested or unaware of the current trend of EBP, may not have even opened the link. Additionally, because of the snowball sampling, many respondents participated as a result of another practitioner's request, who may have an interest in EBP. In terms of social desirability, respondents may be likely to respond more favorably to the questions because of knowledge of the research project. It is also possible that those who are interested in research and have been involved in internet searches were more likely to open a link and complete an online survey. Moreover, because the survey was put on the web, there is no way to ensure that the person completing the survey has done so with complete honesty.

Although the response rate (28%) was consistent with other studies on EBP, and considered adequate for social sciences, it is low. This could be due to the nature of the participants. Practitioners who are also field instructors are busy (as noted in this study) and lack the time to stop and complete surveys. Also, as previously indicated, those practitioners who have little interest in EBP or have little understanding of EBP may have declined to complete the survey for those reasons. In email communications with this researcher, some respondents commented that they did not think this survey was applicable to them as they were not direct practitioners.

Concerning the literature on practitioners' perception and experience in EBP, one limitation of this study is the lack of information on some portions of the

instrument, such as validity and reliability, as well as established scores on subscales that indicate level of EBP Use, skill, or attitude. In addition, there was limited literature on the use of the five-step process of EBP.

Statistical limitations were: 1) because of the way barriers were coded (rank order), there was no way to include them in a regression model; hence, there was no way of assessing what barriers, or the lack of, were statistically significant in predicting EBP Use. And 2) particularly in the demographic items of practice area and agency type, there was a high number of "other" indicating that the categories given for practitioners to choose from could have been expanded to be more exhaustive. In so doing, frequencies and ANOVA testing would have provided a more accurate picture of those variables.

A final limitation is that the instruments used were created and normed in the medical community, as no instruments were found within the field of social work that measured practitioner EBP Use as defined by utilization of the five step approach. Minor changes were made in order to accommodate a social work sample. Reasonably, there can be significant differences between a social work sample and that of the medical field in terms of barriers, knowledge and skill level, for example.

Strengths

This study will be helpful in determining the ways social work education can contribute to the professional training of practitioners. To date, despite a comprehensive review of the literature, no other empirical study was found that discovered the relevance of EBP skills needed for the purpose of enhancing social work education. For

social work education, there are implications for what skills should be taught and to what skill level can be expected in order to encourage EBP Use. Implications will also include the barriers that need to be eliminated or reduced in order to enhance EBP Use. Having an understanding of practitioner attitudes will aid in helping students and practitioners adjust to EBP, as well as give the profession some indication of whether or not EBP is a viable shift in practice, or merely a trend.

This study responds to the need to be accountable to the greater society and to the profession, in terms of revealing practitioners' perceptions to the shifts in practice. Understanding practitioner response is preliminary to making necessary and effective changes.

Additionally, some studies discuss practitioners' attitudes and experiences with EBP in terms of the research-supported practices (McGuire, 2006; Gioa, 2007; Horwath & Thurlow, 2004; Nelson, et al, 2006; Ronen, 2005; Steven et al, 2005), however no study was found in the field of social work that measured EBP Use in terms of adherence to Sackett's (2000) and Gambrill's (2006) five-step approach to evidence-based practice. This research serves as a breakthrough study of how social work practitioners perceive and use the evidence-based process.

Conclusion

Evidence-based practice is likely to be in the profession of social work to stay. As the profession works together to grow in knowledge and skills for the sake of clients, as mandated by the Code of Ethics, researchers will continue to conduct studies that support and refute past and current micro and macro interventions. Additionally, the

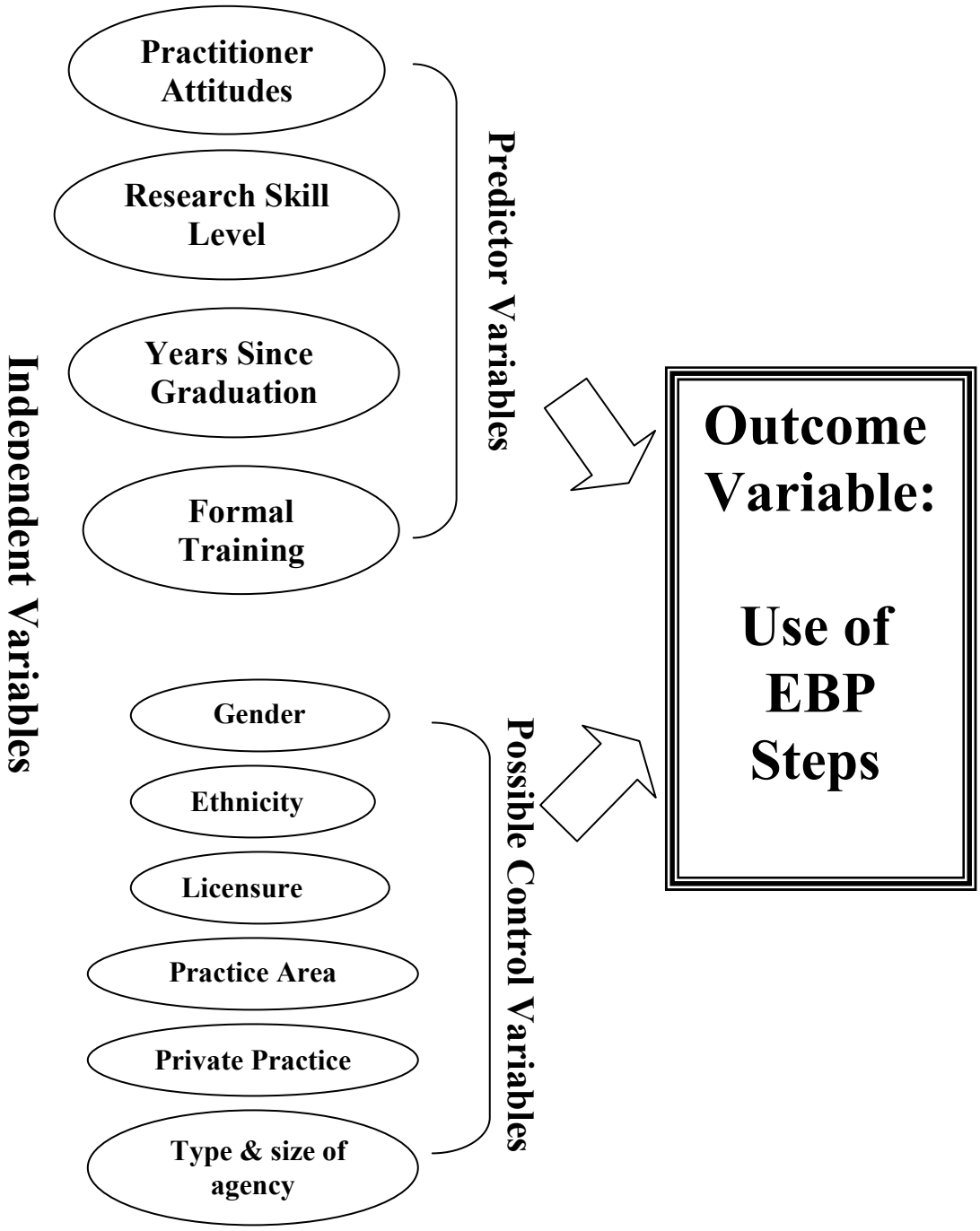
need to be accountable for activity within the profession and in higher education continues to rise. This research study has produced findings that reveal:

- Practitioners who are skilled in EBP will utilize an evidence-based approach to practice.
- Practitioners have many challenges to implementation, such as time limitations, limited access to research and limited knowledge of the process.
- Social Work Education is in a position to meet some of the challenges to implementation in terms of providing the needed education and access to research.

This study offers a clear path to augmenting changes in practice, in that it gives validity to the educating of certain specific EBP skills as outlined in the Upton & Upton (2006) scale. Because it is groundbreaking, it must be duplicated so that it is also evidence-based.

APPENDIX A

VARIABLE MAP OF PREDICTORS


Independent Variables
Practitioner Attitudes
Research Skill Level
Years Since Graduation
Formal Training
Predictor Variables
Gender
Ethnicity
Licensure
Practice Area
Private Practice
Type & size of agency
Possible Control Variables
Outcome Variable:
Use of EBP Steps

APPENDIX B

INFORMED CONSENT & SURVEY QUESTIONNAIRE

PRINCIPAL INVESTIGATOR: Stephanie J. Hamm

TITLE OF PROJECT: Practitioner Perceptions and Experiences with Evidence-Based Practice

This Informed Consent will explain about being a research subject in an experiment. It is important that you read this material carefully and then decide if you wish to be a volunteer.

PURPOSE: The purpose of this study is to discover general perceptions and experiences of MSW practitioners in Texas, concerning evidence-based practice. The purpose of this information is to add to the current knowledge.

DURATION: Your participation in this study will take approximately 10-15 minutes. A convenient, purposive sample of MSWs in the state of Texas has been included in this study.

PROCEDURES: The procedures, which will involve you as a research subject, include: Completing the following survey and returning it to the address indicated.

POSSIBLE RISKS/DISCOMFORTS: The possible risks and/or discomforts of your involvement include: The time taken to complete the survey and resend. There are no other known risks or discomforts to participation.

POSSIBLE BENEFITS: There is no direct benefit to the participant. This study will benefit the field of Social Work and Social Work higher education by adding to the current knowledge.

ALTERNATIVE PROCEDURES / TREATMENTS: There are no alternative procedures.

CONFIDENTIALITY: Every attempt will be made to see that your study results are kept confidential. A copy of the records from this study will be stored in a locked file cabinet in an office in the school of social work for at least three (3) years after the end of this research. The results of this study may be published and/or presented at meetings without naming you as a subject. Although your rights and privacy will be maintained, the Secretary of the Department of Health and Human Services, the UTA IRB, the FDA (if applicable), and personnel particular to this research (individual or department) have access to the study records. Your (e.g., student, medical) records will be kept completely confidential according to current legal requirements. They will not be revealed unless required by law, or as noted above.

FINANCIAL COSTS: There are no additional costs to the participant.

CONTACT FOR QUESTIONS: If you have any questions, problems or research-related medical problems at any time, you may call Stephanie Hamm at 214/796-1569 or UTA School of Social Work at 817/272-3613. You may call the Chairman of the Institutional Review Board at 817/272-1235 for any questions you may have about your rights as a research subject.

VOLUNTARY PARTICIPATION: Participation in this research is voluntary. You may refuse to participate or quit at any time. If you quit or refuse to participate, the benefits to which you are otherwise entitled will not be affected. You may quit by emailing stephaniehamm@uta.edu. You will be told immediately if any of the results of the study should reasonably be expected to make you change your mind about staying in the study.

By signing below, you confirm that you have read or had this document read to you. You will be given a signed copy of this informed consent document. You have been and will continue to be given the chance to ask questions and to discuss your participation with the investigator.

You freely and voluntarily choose to be in this research project.

PRINCIPAL INVESTIGATOR: Stephanie J. Hamm December 12, 2007

_____

SIGNATURE OF VOLUNTEER DATE

SURVEY QUESTIONNAIRE

Please fill out the following survey as completely as possible, based on your knowledge, experience and perceptions of Evidence-Based Practice. Your thoughtful input will be very important and greatly appreciated.

Demographics

Gender: □Male □Female

Ethnicity: □Caucasian □ African-American □Hispanic
□Asian □Other: _____

Primary Practice area: (Please check all that apply)
□ clinical □school (primary and secondary) □addictions
□SW education □community □other
_____

SW Education: (Please check all that apply)
□BSSW/BSW/BASW □MSW/MSSW □DSW □ PhD

Years in professional practice following Masters Degree: _____ Years

Are you currently in Private practice?
□ No □Yes: □Full-time □Part-time

Agency Demographics

Type of Agency: (Please check all that apply)
□Child Welfare □ Community Mental Health □Youth
□School □Hospital □Other: _____

Primary Agency Funding: (Please check all that apply)
□ Federal □State □ Fund Raising/Donations □Client Fees
□Private Grants □ Other
_____

Size of Agency/# of employees: □1-10 □ 11-25 □ 26-49
□ 50+

# of Masters Level Practitioners: □1-10 □ 11-25 □26-49
□ 50+

For purposes of this survey, Evidence-Based Practice (EBP) is defined as:

A process of making intervention decisions based on the client system, professional judgment, and research, for the purpose of accessing the best intervention (Sackett, Straus, Richardson, Rosenberg, & Haynes, 2000; Gambrill, 2006; Institute Of Medicine Of The National Academies, 2007).

General practitioners' perceptions

For the next five statements, please choose the most appropriate answer from the following scale: 1- strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree					
a. My attitude towards the current promotion of evidence-based practice is supportive.	1	2	3	4	5
b. Research findings are useful in the day to day management of clients.	1	2	3	4	5
c. Utilizing evidence-based practice improves client care.	1	2	3	4	5
d. Evidence-based practice is of limited value because much of treatment lacks a scientific base.	1	2	3	4	5
e. The adoption of EBP, however worthwhile as an ideal, places another demand on already overloaded practitioners.	1	2	3	4	5

(Adopted from McColl, Smith, White, & Field, 1998)

2. How would you describe the attitude of most of your social work colleagues towards evidence-based practice?

☐ Extremely supportive ☐Somewhat supportive ☐Not at all supportive

3. What percentage of your practice do you feel is currently evidence-based?

☐100% ☐ 99%-50% ☐49%-25% ☐less than 25%

Evidence-Based Process

4. Considering your practice in relation to an individual's treatment over the *past* year, how often have you done the following in response to a gap in your knowledge (please √):

Formulated a clearly answerable question as the beginning of the process towards filling this gap:

Never ☐ ☐ ☐ ☐ ☐ ☐ ☐ **Frequently**

Tracked down the relevant evidence once you have formulated the question:

Never ☐ ☐ ☐ ☐ ☐ ☐ ☐ **Frequently**

Critically appraised, against set criteria, any literature you have discovered:
Never ☐ ☐ ☐ ☐ ☐ ☐ ☐ **Frequently**

Integrated the evidence you have found with your expertise:
Never ☐ ☐ ☐ ☐ ☐ ☐ ☐ **Frequently**

Evaluated the outcomes of your practice:
Never ☐ ☐ ☐ ☐ ☐ ☐ ☐ **Frequently**

Shared this information with colleagues:
Never ☐ ☐ ☐ ☐ ☐ ☐ ☐ **Frequently**

EBP Skills

5. Please circle one number for each statement (1 being poor, 7 being best)

On a scale of 1 to 7 (with 7 being the best) how would you rate your:							
Research skills	1	2	3	4	5	6	7
Internet skills	1	2	3	4	5	6	7
Monitoring and reviewing of practice skills	1	2	3	4	5	6	7
Converting your information needs into a research question	1	2	3	4	5	6	7
Awareness of major information types and sources	1	2	3	4	5	6	7
Ability to identify gaps in your professional practice	1	2	3	4	5	6	7
Knowledge of how to retrieve evidence	1	2	3	4	5	6	7
Ability to analyze critically evidence against set standards	1	2	3	4	5	6	7
Ability to determine how valid (close to the truth) the material is	1	2	3	4	5	6	7
Ability to determine how useful (clinically applicable) the material is	1	2	3	4	5	6	7
Ability to apply information to individual cases	1	2	3	4	5	6	7
Sharing of ideas and information with colleagues	1	2	3	4	5	6	7
Dissemination of new ideas about care to colleagues	1	2	3	4	5	6	7
Ability to review your own practice	1	2	3	4	5	6	7

Accessing Barriers

6. What do you think are the major barriers to utilizing EBP in General Practice? (Please, indicate in order of importance, 1 being the strongest barrier, and 8 being the weakest)

____EB interventions are difficult to integrate into practice
____Lack of support of administration/supervisor
____Lack of support of colleagues
____Research is difficult to access
____Research is difficult to understand
____Research not in terms that fit presenting problems

____Time limitation
____Unavailable research on topics needed
____Other

_____

Theoretical Foundation

7. What would you say is your main theoretical approach to practice? (choose one)

☐Cognitive-Behavioral Therapy ☐Behavioral ☐Brief Treatment

☐ Group work

☐Solution-focused ☐Task-centered ☐Eclectic ☐Feminist/Critical

☐Macro Change

☐Other: _____

8. Do you see Evidence-Based practice as compatible to your existing theoretical approach?

☐Yes ☐No

8a. Why or Why not? _____

Please refer to the following statement and four options to answer questions 9-11.

One can move from current practice towards evidence based practice in three very different ways:

	by learning the skills of evidence-based practice, ie to identify and appraise the primary literature or systematic reviews oneself;
	by seeking and applying evidence based summaries, which give the "bottom line". Such summaries may be obtained from journals;
	by using evidence based practice guidelines or protocols developed by colleagues for use by others.
	None of the above.

9. Which of these methods are you using?

Please select one or more boxes. ☐a ☐b ☐c ☐d

10. Which of these methods would you be interested in using in the future?

Please select one or more boxes. ☐a ☐b ☐c ☐d

11. Which of these methods do you think is the most appropriate in general social work practice?

Choose one only. ☐a ☐b ☐c ☐d

12. Please describe how evidence-based practice could be further facilitated in your own Practice?

_____

_____

<u>Accessing Evidence</u>

13. How often in the last year have you (or someone on your behalf) used Campbell/Cochrane or another database for literature searching?
_____ Times

14. When did you last do a search which influenced your practice?
Month _____ Year _____

14a. What was the topic?
_____

15. What is your primary source of intervention knowledge/information? (choose one)

☐Journals ☐Web ☐Systematic reviews, such as Campbell

☐Research Databases ☐Conferences/workshops ☐Other:
_____

16. Where do you have access to Campbell (or other systematic reviews/meta-analyses)? (choose one)

☐ At home ☐In my office ☐At my local university library

☐ Other (please specify) _____ ☐Do not access Campbell

17. Where do you primarily have access to the World Wide Web? (choose one)

☐At home ☐In my office ☐ At my local university library

☐Other (please specify) _____ ☐Do not access the Web

18. What would you need that would enable you to implement an Evidence-Based practice? (Please check all that apply)

☐ Training ☐Smaller case loads ☐Access to the Web ☐Access to current research

☐ Financial resources ☐Other:

_____

Formal Training

19. Have you ever received formal training/coursework in database search strategy?

☐No ☐ Yes

19a. If so, where? _____

20. Have you ever received formal training/coursework in critical appraisal?

☐No ☐Yes

20a. If so, where? _____

21. Have you attended any formal training/coursework related to evidence-based practice?

☐ No ☐Yes

21a. If so, where? _____

22. What suggestions to you have regarding improving the implementation of an EB approach in practice?

_____

_____

_____

Thank you very much for your thoughtful responses! Information gained here, will have useful implications for the future of social work practice and education.

APPENDIX C

TABLE OF STUDIES

Table of Studies Used

Researchers	Date	Description	Sample	Design	Analysis
Gioia	2007	21 month study on practitioners' perspectives on EBPs/EBP	Mental health practitioners (n=15); purposive; convenience	Mixed: trainings, interviews & questionnaire (EBPAS)	Descriptive, non-statistical
Horwath & Thurlow	2004	Field students use macro EBP in UK	Students; purposive	Qualitative, non-experimental	Descriptive, non-statistical
Howard, McMillen & Pollio	2003	Implementation of EBP in George Warren Brown School of Social Work across curriculum	n/a	n/a	n/a
Iles & Davidson	2006	UK study on physical therapists attitudes, skills, activities in EBP; comparisons	Physical therapists (n=124) at 53.9% response rate; purposive, convenience	Quantitative: survey questionnaire	Descriptive; means compari-sons using T-tests, odds ratio
Jette, Bacon, Batty, Carlson, Ferland, Hemingway, Hill, Ogilvie, & Volk	2003	US study of physical therapists perceptions, skills of EBP	Physical therapists (n=488); random	Quantitative: survey questionnaire	Descriptive, means compari-sons, logistic regression, odds ratio
McColl, Smith, White, & Field	1998	UK study of medical doctors' perceptions and use of EBM	Physicians (n=302); 67% response rate; random	Quantitative: survey questionnaire	Descriptive, means compari-sons

McGuire	2006	Dissertation study at University of Houston using Aaron's EBPAS & BARRIERS Scale	LCSWs in Texas; purposive, random sample	Quantitative: Survey questionnaire	Frequencies MANOVA, ANOVA
Nelson, Steel, & Mize	2006	Practitioner perspective of EBP	Community mental health practitioners (n=19); convenience, purposive	Qualitative; Focus groups	Content analysis; Descriptive; T-test, chi-square
Ronen	2005	Field students EBP approach with children diagnosed with ODD	Field students N=35; purposive	Qualitative, non-experimental	Descriptive, non-statically
Rubin & Parrish	2007	Research on journal articles studying misleading phraseology	Journal articles (n=138); purposive, random	Quantitative; quasi-experimental	frequencies, correlation, kappa statistic, chi-square
Rubin & Parrish	2007	Research on deans and directors on perceptions of EBP in SWE	Random; SSW Faculty & administra-tors (n=973), 33% response rate	Quantitative, non-experimental; 10-item questionnaire	Frequen-cies, correlation, chi-square
Siegel	1984	Study of the Chicago school's integration of EBP in curriculum/percepti ons of faculty & students	SSW Instructors (n=14); purposive	Mixed; non-experimental; interviews, curriculum records, questionnaire	Descriptive, non-statistical
Stevens, Liabo, Frost & Roberts	2005	Research on implementing EBP in practice settings. Using research team and implementation officer from 9/2002-8/2003	Participating practitioners; questions of researchers (n=46); purposive	Qualitative, non-experimental	Frequencies

Upton & Upton	2005	UK, Validity testing of a survey	Nurses (n=751) 75.1% response rate; random, multi-stage cluster	Quantitative; questionnaire	Cronbach's alpha for reliability; Pearson's r for construct validity; T-test for discriminant validity
Upton & Upton	2005	UK, study comparing EBM use and skills of hospital physicians and general practitioners	Hospital Physicians (n=381) & General Practitioners, 76.2% & 60.4% response rates respectively (n=302); random	Quantitative; questionnaire	Descriptive; means compari-sons with T-tests, Chi squares
Woody, D'Souza & Dartman	2006	Study of deans and directors addressing EBP in curriculum	Random; CSWE accredited schools deans and directors 40% response rate (n=66)	Quantitative, non-experimental; 6-page survey	Descriptive, correlation; frequencies, t-test, Cohen's d for effect size
Edmond, Megivern, Williams, Rochman, & Howard	2006	Report of George Warren Brown's study on field instructors' EBP experience/attitudes	Field Instructors serving their school; 47% response rate (180 agencies); purposive	Quantitative, non-experimental 25-item question-naire;	Descriptive, frequencies, chi-squares, T-test, ANOVA

APPENDIX D

SPSS VARIABLES CODEBOOK

Variable Values Codebook		
Value		Label
QD2 **gender**	0	male
	1	female
QD3 **ethnicity**	1	Caucasian
	2	African-American
	3	Hispanic
	4	Asian
	5	Other
QD4a **P-clinical**	0	no
	1	yes
QD4b **p-school**	0	no
	1	yes
QD4c **p-addictions**	0	no
	1	yes
QD4d **p-swe**	0	no
	1	yes
QD4e **p-community**	0	no
	1	yes
QD4f **p-other**	0	no
	1	yes
QD5a **bsw**	0	no
	1	yes
QD5b **msw**	0	no
	1	yes
QD5c **dsw** ds	0	no
	1	yes
QD5d **phd**	0	no
	1	yes
QD7	1	no
Private practice	2	yes-part time
	3	yes-full time
QD8a **Agency-child welfare**	0	no
	1	yes
QD8b **Agency-com. Mental hx**	0	no
	1	yes
QD8c **Agency-youth**	0	no
	1	yes
QD8d **Agency-school**	0	no
	1	yes
QD8e **Agency-hosp**	0	no
	1	yes
QD8f **Agency-other**	0	no
	1	yes
QD9a **Fund-fed**	0	no
	1	yes
QD9b **Fund-state**	0	no
	1	yes
QD9c **Fund-donations**	0	no
	1	yes
QD9d **F-fees**	0	no
	1	yes
QD9e **Fund-grants**	0	no
	1	yes
QD9f **Fund-other**	0	no
	1	yes
QD10 **Agency size**	1	1-10
	2	11-25
	3	26-49
	4	50+

QD11 **# of MSWs**	1	1-10
	2	11-25
	3	26-49
	4	50+
Q13 **Colleagues' attitudes**	1	extremely supportive
	2	somewhat supportive
	3	not at all supportive
Q14 **% of practice EBP**	1	100%
	2	99-50%
	3	49-25%
	4	<25%
QB17a **Barr-integration**	0	no
	1	yes
QB17b **Barr-admin support**	0	no
	1	yes
QB17c **Barr-colleague support**	0	no
	1	yes
QB17d **Barr-access difficulty**	0	no
	1	yes
QB17e **Barr-diff understand**	0	no
	1	yes
QB17f **Barr-terminology**	0	no
	1	yes
QB17g **Barr-time**	0	no
	1	yes
QB17h **Barr-unavailable research**	0	no
	1	yes
QB17i **Barr-other**	0	no
	1	yes
Q18	1	cbt
Theoretical approach	2	behavioral
	3	brief
	4	group work
	5	solution-focused
	6	task-centered
	7	eclectic
	8	Feminist/Critical
	9	Macro change
	10	other
Q19 **Theo compatible**	0	no
	1	yes
Q20a **Which using**	0	none of the above
	1	learning new skills
	2	applying summaries
	3	using practice guidelines
Q20b **Which for future**	0	none of the above
	1	learning new skills
	2	applying summaries
	3	using practice guidelines
Q20c **Most appropriate**	0	none of the above
	1	learning new skills
	2	applying summaries
	3	using practice guidelines
Q25 **Primary source of info**	1	Journals
	2	web
	3	systematic reviews
	4	research databases

	5	conferences/workshops
	6	other
Q26a **Accessing Campbell**	1	home
	2	office
	3	library
	4	other
	5	no access
Q26b **Accessing web**	1	home
	2	office
	3	library
	4	other
	5	no access
Q27a **Need-train**	0	no
	1	yes
Q27b **Need-small caseloads**	0	no
	1	yes
Q27c **Need-web**	0	no
	1	yes
Q27d **Need-current research**	0	no
	1	yes
Q27e **Need-$$**	0	no
	1	yes
Q27f **Need-other**	0	no
	1	yes
QF28a **Form train-research**	0	no
	1	yes
QF28b **Form train-critical appraisal**	0	no
	1	yes
QF28c	0	no

Any form train	1	yes

APPENDIX E

SPSS REGRESSION TABLES

For Hypotheses #3-7

H_3: Regression: skill on use

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Skill Score[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Use Score

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.593[a]	.352	.346	9.86496

a. Predictors: (Constant), Skill Score

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5659.705	1	5659.705	58.157	.000[a]
	Residual	10412.973	107	97.318		
	Total	16072.679	108			

a. Predictors: (Constant), Skill Score

b. Dependent Variable: Use Score

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-11.358	5.778		-1.966	.052
	Skill Score	.603	.079	.593	7.626	.000

a. Dependent Variable: Use Score

H_4: Regression: years since graduation on use

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	years in prof. practice[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Use Score

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.048[a]	.002	-.007	12.32867

a. Predictors: (Constant), years in prof. practice

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	37.107	1	37.107	.244	.622[a]
	Residual	16263.572	107	151.996		
	Total	16300.679	108			

a. Predictors: (Constant), years in prof. practice

b. Dependent Variable: Use Score

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	31.082	2.017		15.406	.000
	years in prof. practice	.065	.131	.048	.494	.622

a. Dependent Variable: Use Score

H_5: Regression: attitude on use

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Attitude score w/reversed coding[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Use Score

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.461[a]	.213	.206	10.86933

a. Predictors: (Constant), Attitude score w/reversed coding

ANOVAb

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3541.769	1	3541.769	29.979	.000[a]
	Residual	13113.788	111	118.142		
	Total	16655.558	112			

a. Predictors: (Constant), Attitude score w/reversed coding

b. Dependent Variable: Use Score

H_6: Regression: training on use

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Training score[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Use Score

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.129[a]	.017	.003	11.44620

a. Predictors: (Constant), Training score

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-2.887	6.407		-.451	.653
	Attitude score w/reversed coding	1.844	.337	.461	5.475	.000

a. Dependent Variable: Use Score

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	163.796	1	163.796	1.250	.267[a]
	Residual	9695.151	74	131.016		
	Total	9858.947	75			

a. Predictors: (Constant), Training score

b. Dependent Variable: Use Score

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	29.083	3.304		8.802	.000
	Training score	4.026	3.601	.129	1.118	.267

a. Dependent Variable: Use Score

T-Test: comparing use by Caucasian & non-Caucasian=*significance at the .05 level, indicating that Caucasian respondents scored significantly higher on use (mean=32.8, sd=11.7) than non Caucasian respondents (mean=25.7, sd=13.0) by 7.08 points. (p<.05)*

To inform H_7 regression analysis

Group Statistics

	white & non-white	N	Mean	Std. Deviation	Std. Error Mean
Use Score	Caucasian	101	32.8119	11.71897	1.16608
	Non-Caucasian	15	25.7333	13.02452	3.36292

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
								95% Confidence Interval of the Difference	
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper

Use Score	Equal variances assumed	.035	.852	2.152	114	.034	7.07855	3.28924	.56258	13.59451
	Equal variances not assumed			1.989	17.533	.063	7.07855	3.55935	-.41365	14.57075

Oneway: comparing use by sources of information--significance at the .004 level. Differences were in other/journals and other/databases.

To inform the H_7 regression analysis

Descriptives

Use Score

					95% Confidence Interval for Mean			
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound	Minimum	Maximum
journals	15	36.7333	12.91437	3.33448	29.5816	43.8851	6.00	54.00
web	22	31.2273	10.75233	2.29240	26.4600	35.9946	14.00	54.00
databases/reviews	10	41.9000	8.17109	2.58392	36.0548	47.7452	25.00	54.00
conferences	36	32.5278	9.93547	1.65591	29.1661	35.8895	10.00	54.00
other	7	22.1429	11.71080	4.42627	11.3122	32.9735	8.00	44.00
Total	90	33.1444	11.38850	1.20045	30.7592	35.5297	6.00	54.00

ANOVA

Use Score

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1901.596	4	475.399	4.191	.004
Within Groups	9641.526	85	113.430		
Total	11543.122	89			

Multiple Comparisons

Use Score

Tukey HSD

(I) webdatabase combined	(J) webdatabase combined	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
journals	web	5.50606	3.56621	.537	-4.4337	15.4458
	databases/reviews	-5.16667	4.34798	.758	-17.2854	6.9520
	conferences	4.20556	3.27304	.701	-4.9171	13.3282
	other	14.59048*	4.87506	.029	1.0027	28.1782
web	journals	-5.50606	3.56621	.537	-15.4458	4.4337
	databases/reviews	-10.67273	4.06188	.074	-21.9940	.6485
	conferences	-1.30051	2.88214	.991	-9.3336	6.7326
	other	9.08442	4.62170	.292	-3.7972	21.9660
databases/reviews	journals	5.16667	4.34798	.758	-6.9520	17.2854
	web	10.67273	4.06188	.074	-.6485	21.9940
	conferences	9.37222	3.80707	.109	-1.2388	19.9833
	other	19.75714*	5.24854	.003	5.1284	34.3859
conferences	journals	-4.20556	3.27304	.701	-13.3282	4.9171
	web	1.30051	2.88214	.991	-6.7326	9.3336
	databases/reviews	-9.37222	3.80707	.109	-19.9833	1.2388
	other	10.38492	4.39944	.136	-1.8772	22.6470
other	journals	-14.59048*	4.87506	.029	-28.1782	-1.0027
	web	-9.08442	4.62170	.292	-21.9660	3.7972
	databases/reviews	-19.75714*	5.24854	.003	-34.3859	-5.1284
	conferences	-10.38492	4.39944	.136	-22.6470	1.8772

*. The mean difference is significant at the 0.05 level.

Use Score

Tukey HSD

webdatabase combined	N	Subset for alpha = 0.05

		1	2
other	7	22.1429	
web	22	31.2273	31.2273
conferences	36	32.5278	32.5278
journals	15		36.7333
databases/reviews	10		41.9000
Sig.		.102	.087

Means for groups in homogeneous subsets are displayed.

H_7: Regression: EBP attitude and skill on EBP use with Caucasian, non Caucasian, databases/reviews, and journals as control variables. Adjusted R2=.387, p<.05 with skill still being the only significant predictor over and above all others.

Descriptive Statistics

	Mean	Std. Deviation	N
Use Score	32.9302	11.60607	86
databases/reviews primary source of know.	.0930	.29217	86
journal is primaray source of knowledge	.1744	.38169	86
OtherEthnic	.1047	.30790	86
Caucasian	.8953	.30790	86
Attitude score w/reversed coding	19.0116	3.19004	86
Skill Score	71.6395	11.51767	86

Correlations

		Use Score	databases/reviews primary source of know.	journal is primaray source of knowledge	OtherEthnic	Caucasian	Attitude score w/reversed coding	Skill Score
Pearson	Use Score	1.000	.259	.151	-.107	.107	.471	.602

Correlation	databases/reviews primary source of know.	.259	1.000	-.147	.152	-.152	.251	.398
	journal is primaray source of knowledge	.151	-.147	1.000	-.057	.057	.037	.036
	OtherEthnic	-.107	.152	-.057	1.000	-1.000	-.001	.027
	Caucasian	.107	-.152	.057	-1.000	1.000	.001	-.027
	Attitude score w/reversed coding	.471	.251	.037	-.001	.001	1.000	.545
	Skill Score	.602	.398	.036	.027	-.027	.545	1.000
Sig. (1-tailed)	Use Score	.	.008	.082	.164	.164	.000	.000
	databases/reviews primary source of know.	.008	.	.088	.081	.081	.010	.000
	journal is primaray source of knowledge	.082	.088	.	.301	.301	.368	.371
	OtherEthnic	.164	.081	.301	.	.000	.495	.401
	Caucasian	.164	.081	.301	.000	.	.495	.401
	Attitude score w/reversed coding	.000	.010	.368	.495	.495	.	.000
	Skill Score	.000	.000	.371	.401	.401	.000	.
N	Use Score	86	86	86	86	86	86	86
	databases/reviews primary source of know.	86	86	86	86	86	86	86
	journal is primaray source of knowledge	86	86	86	86	86	86	86
	OtherEthnic	86	86	86	86	86	86	86
	Caucasian	86	86	86	86	86	86	86

	Attitude score w/reversed coding	86	86	86	86	86	86	86
	Skill Score	86	86	86	86	86	86	86

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Skill Score, Caucasian, journal is primaray source of knowledge, databases/reviews primary source of know., Attitude score w/reversed coding[a]	.	Enter

a. Tolerance = .000 limits reached.

b. Dependent Variable: Use Score

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.651[a]	.423	.387	9.08581	.423	11.739	5	80	.000

a. Predictors: (Constant), Skill Score, Caucasian, journal is primary source of knowledge, databases/reviews primary source of know., Attitude score w/reversed coding

b. Dependent Variable: Use Score

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4845.424	5	969.085	11.739	.000[a]
	Residual	6604.158	80	82.552		
	Total	11449.581	85			

a. Predictors: (Constant), Skill Score, Caucasian, journal is primary source of knowledge, databases/reviews primary source of know., Attitude score w/reversed coding

b. Dependent Variable: Use Score

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-19.522	7.793		-2.505	.014
databases/reviews primary source of know.	2.371	3.781	.060	.627	.532
journal is primaray source of knowledge	3.931	2.627	.129	1.497	.138
Caucasian	4.558	3.243	.121	1.405	.164
Attitude score w/reversed coding	.709	.369	.195	1.921	.058
Skill Score	.474	.108	.471	4.389	.000

a. Dependent Variable: Use Score

Excluded Variables

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	OtherEthnic	.[a]	.	.	.	.000

a. Predictors in the Model: (Constant), Skill Score, Caucasian, journal is primary source of knowledge, databases/reviews primary source of know., Attitude score w/reversed coding

b. Dependent Variable: Use Score

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	13.4685	49.7253	32.9302	7.55016	86
Std. Predicted Value	-2.578	2.224	.000	1.000	86
Standard Error of Predicted Value	1.193	4.104	2.253	.830	86
Adjusted Predicted Value	14.1481	49.6453	32.9798	7.59196	86
Residual	-2.20076E1	23.46845	.00000	8.81453	86

Std. Residual	-2.422	2.583	.000	.970	86
Stud. Residual	-2.678	2.606	-.003	1.008	86
Deleted Residual	-2.69018E1	23.88920	-.04954	9.52854	86
Stud. Deleted Residual	-2.789	2.707	-.004	1.022	86
Mahal. Distance	.476	16.352	4.942	4.316	86
Cook's Distance	.000	.266	.014	.033	86
Centered Leverage Value	.006	.192	.058	.051	86

a. Dependent Variable: Use Score

Regression: original model of skill, years, attitude, training on use

Variables Entered/Removed[b]

Model	Variables Entered	Variables Removed	Method
1	Attitude score w/reversed coding, years in prof. practice, Training score, Skill Score[a]	.	Enter

a. All requested variables entered.

b. Dependent Variable: Use Score

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.654[a]	.428	.393	9.16281

a. Predictors: (Constant), Attitude score w/reversed coding, years in prof. practice, Training score, Skill Score

ANOVAb

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4081.878	4	1020.469	12.155	.000[a]
	Residual	5457.208	65	83.957		
	Total	9539.086	69			

a. Predictors: (Constant), Attitude score w/reversed coding, years in prof. practice, Training score, Skill Score

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.654[a]	.428	.393	9.16281

b. Dependent Variable: Use Score

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-18.834	7.705		-2.444	.017
years in prof. practice	.112	.119	.089	.942	.350
Skill Score	.478	.105	.501	4.536	.000
Training score	-.894	3.089	-.028	-.289	.773
Attitude score w/reversed coding	.851	.375	.248	2.268	.027

a. Dependent Variable: Use Score

APPENDIX F

SPSS RELIABILITY TABLES

Reliability: for Attitude subscale

Case Processing Summary

		N	%
Cases	Valid	120	85.7
	Excluded[a]	20	14.3
	Total	140	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.769	.791	5

Item Statistics

	Mean	Std. Deviation	N
Attitude: describe	4.0667	.67030	120
Attitude: usefulness of findings	3.8750	.82566	120
Attitude: improves client care	4.0000	.73336	120
Attitude: limited value	3.7167	.87143	120
Attitude: another demand	3.0917	1.03709	120

Inter-Item Correlation Matrix

	Attitude: describe	Attitude: usefulness of findings	Attitude: improves client care	Attitude: limited value	Attitude: another demand
Attitude: describe	1.000	.547	.684	.450	.318
Attitude: usefulness of findings	.547	1.000	.625	.371	.298

Attitude: improves client care	.684	.625	1.000	.408	.254
Attitude: limited value	.450	.371	.408	1.000	.354
Attitude: another demand	.318	.298	.254	.354	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.750	3.092	4.067	.975	1.315	.153	5

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
18.7500	9.097	3.01606	5

Reliability: EBP Use subscale

Case Processing Summary

		N	%
Cases	Valid	116	82.9
	Excluded[a]	24	17.1
	Total	140	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.902	.903	6

Item Statistics

	Mean	Std. Deviation	N
Use: formulate question	5.4655	2.42606	116
Use: tracked down relevant evidence	5.3017	2.41452	116
Use: critically appraised	4.4052	2.49862	116
Use: integrated evidence	5.8190	2.37230	116
Use: evaluated outcomes	5.3879	2.48394	116
Use: Shared information	5.5172	2.53491	116

Inter-Item Correlation Matrix

	Use: formulate question	Use: tracked down relevant evidence	Use: critically appraised	Use: integrated evidence	Use: evaluated outcomes	Use: Shared information
Use: formulate question	1.000	.823	.561	.755	.504	.537
Use: tracked down relevant evidence	.823	1.000	.620	.813	.476	.558
Use: critically appraised	.561	.620	1.000	.686	.475	.528
Use: integrated evidence	.755	.813	.686	1.000	.537	.643
Use: evaluated outcomes	.504	.476	.475	.537	1.000	.607
Use: Shared information	.537	.558	.528	.643	.607	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	5.316	4.405	5.819	1.414	1.321	.230	6
Item Variances	6.030	5.628	6.426	.798	1.142	.089	6

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
31.8966	145.763	12.07324	6

ANOVA with Friedman's Test

		Sum of Squares	df	Mean Square	Friedman's Chi-Square	Sig
Between People		2793.793	115	24.294		
Within People	Between Items	133.494[a]	5	26.699	51.595	.000
	Residual	1367.172	575	2.378		
	Total	1500.667	580	2.587		
Total		4294.460	695	6.179		

Grand Mean = 5.3161

a. Kendall's coefficient of concordance W = .031.

Reliability: EBP Skill subscale

Case Processing Summary

		N	%
Cases	Valid	112	80.0
	Excluded[a]	28	20.0
	Total	140	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.905	.908	14

Item Statistics

	Mean	Std. Deviation	N
Skills: research	4.8125	1.47978	112
Skills: internet	5.5893	1.30525	112
Skills: monitoring & reviewing	5.2143	1.18875	112
Skills: converting to question	4.2232	1.56372	112
Skills: information types	4.9911	1.29792	112
Skills: id gaps in practice	5.4821	1.02212	112
Skills: retrieval	5.0893	1.27734	112
Skills: critically analyze evidence	4.9821	1.29435	112
Skills: determine validity	5.0625	1.21760	112
Skills: determine usefulness	5.2411	1.15661	112
Skills: application	5.4375	1.08869	112
Skills: info sharing	5.5357	1.20006	112
Skills: dissemination to colleagues	5.2054	1.38290	112
Skills: Review practice	5.2321	1.23742	112

Inter-Item Correlation Matrix

	Skills: research	Skills: internet	Skills: monitoring & reviewing	Skills: converting to question	Skills: information types	Skills: id gaps in practice	Skills: retrieval	Skills: critically analyze evidence	Skills: determine validity	Skills: determine usefulness	Skills: application	Skills: info sharing	Skills: dissemination to colleagues	Skills: Review practice

Skills: research	1.000	.361	.402	.536	.553	.364	.533	.563	.457	.306	.197	.219	.213	.354
Skills: internet	.361	1.000	.179	.213	.375	.157	.395	.321	.339	.263	.090	.084	.177	.093
Skills: monitoring & reviewing	.402	.179	1.000	.473	.404	.567	.480	.430	.333	.368	.372	.279	.209	.474
Skills: converting to question	.536	.213	.473	1.000	.436	.456	.468	.532	.452	.259	.286	.329	.345	.355
Skills: information types	.553	.375	.404	.436	1.000	.553	.663	.627	.570	.446	.334	.356	.372	.332
Skills: id gaps in practice	.364	.157	.567	.456	.553	1.000	.588	.510	.439	.526	.537	.397	.350	.481
Skills: retrieval	.533	.395	.480	.468	.663	.588	1.000	.682	.581	.443	.367	.256	.270	.306
Skills: critically analyze evidence	.563	.321	.430	.532	.627	.510	.682	1.000	.750	.611	.485	.459	.349	.464
Skills: determine validity	.457	.339	.333	.452	.570	.439	.581	.750	1.000	.731	.577	.452	.378	.397
Skills: determine usefulness	.306	.263	.368	.259	.446	.526	.443	.611	.731	1.000	.667	.386	.346	.420

Skills: application	.197	.090	.372	.286	.334	.537	.367	.485	.577	.667	1.000	.557	.436	.466
Skills: info sharing	.219	.084	.279	.329	.356	.397	.256	.459	.452	.386	.557	1.000	.737	.449
Skills: dissimination to colleagues	.213	.177	.209	.345	.372	.350	.270	.349	.378	.346	.436	.737	1.000	.361
Skills: Review practice	.354	.093	.474	.355	.332	.481	.306	.464	.397	.420	.466	.449	.361	1.000

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	5.150	4.223	5.589	1.366	1.323	.123	14
Item Variances	1.620	1.045	2.445	1.400	2.341	.139	14

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
72.0982	141.711	11.90424	14

APPENDIX G

PERMISSION TO USE SUBSCALES

Email correspondence from Penelope Upton, MA MPhil from Sheffield University, Sheffield, UK concerning use of Evidence-based practice questionnaire.

Received 9.6.2007 from p.upton@worc.ac.uk

Dear Stephanie,

Many thanks for your interest in the EBPQ. We are happy to provide you with a copy of this measure & permission to use it in your research, with the proviso that as authors we are acknowledged in any communication including publication, in which the questionnaire is used. In accordance with UK copyright law we would also be grateful if you would refer anyone else interested in using the EBPQ to us, rather than distribute copies of the questionnaires to third parties yourself. This will also help us gauge the level of interest in the questionnaire and its application in the clinical/research setting. Good luck with your research and please let me know if you require any further information.

Best wishes
Penney

Date: Thu, 6 Sep 2007 14:12:55 +0100 (GMT+01:00)
From: "a.mccoll@tiscali.co.uk" <a.mccoll@tiscali.co.uk>
To: stephjhamm@sbcglobal.net
Subject: permission re EBM questionnaire

Stephanie, Yes of course you can use the questionnaire - its in the public domain - good luck. Alastair

From: STEPHANIE HAMM [mailto:]
Sent: 05 September 2007 16:21
To: wren@soton.ac.uk
Subject:

Hello

My name is Stephanie Hamm and I am a PhD student at the University of Texas at Arlington in the US. I am trying to make contact with Dr. Alastair McColl in order to get permission to use a survey questionnaire for my research. Can you give me an email address or contact information to that end? Thank you so much.

Stephanie Hamm, MSW

REFERENCES

Altbach, P. G. (2002). Introduction: The changing landscape of American higher education. In Forest, J.JF. & Kinser, K. (Eds). *Higher Education in the United States: An Encyclopedia*. (XV-Xviii). Santa Barbara: ABC-CLIO

Allen, J., Ramaekers, G., & Van Der Velden, R. (2005). Measuring competencies of higher education graduates. *New Directions for Institutional Research*, *126*, 49-59.

Arrington, p. & Whitaker, T,. (2008). Overview of survey participants. *NASW Membership Workforce Study*. Washington DC: NASW. Retrieved on February 29, 2008, from NASW web site: http//workforce.socialworkers.org/studies/overview.pdf.

Bandura, A. (1994). Self-Efficacy. In V.S. Ramachaudran (Ed.), *Encyclopedia of human behavior* (pp. 71-81). New York: Academic Press. Retrieved September 26, 2007, from Emory University Web Site: http://www.des.emory.edu/mfp/BanEncy.html

Bennett, S., Tooth, L., McKenna, K., Rodger, S., Stong, J., Ziviani, J., et al. (2003). Perceptions of evidence based practice: a survey of Australian occupational therapists. *Australian Occupational Therapy Journal, 50*, 13-22.

Blizinsky, M. J., & Reid, W. J. (1980). Problem focus and change in a brief-treatment model. *Social Work, March,* 89-93.

Bohrnstedt, G. W. & Knoke, D. (1994). *Statistics for Social Data Analysis* (third ed.). Itasca, Il: F. E. Peacock Publishers, Inc.

Brieland, D. (1977). Historical overview. *Social Work,* September, 341-346.

Brown, T.L. (2003). Internet-based research: is it a viable strategy for increasing the representation of ethnic minorities in psychological research? *Individual Differences Research,* 1 (3), 218-229

Campbell Collaboration. (2007). The Campbell Collaboration. Retrieved May 24, 2007, from The Campbell Collaboration Web Site: http://www.campbellcollaboration.org

CEBSS. (2007). Evidence-based practice in social work. Retrieved May 24, 2007, from Social Work Library, University of Michigan Web Site: http://www.lib.umich.edu/socwork/rescue/ebsw.html

Cochrane Collaboration. (2007). The Cochrane Collaboration. Retrieved May 24, 2007, from The Cochrane Collaboration Web Site: http://cochrane.org

Cohen, J. (1992). A power primer. *Psychological Bulletin, 112*(1), 155-159.

CONSORT. (1996). CONSORT. Retrieved May 24, 2007, from Consolidated Standards of Reporting Trials Statement Web Site: http://www.consort-statement.org

Council for Excellence in Government (2008). *How to Read Research Findings to Distinguish Evidence-Based Programs from Everything Else* (wkshp). Retrieved February8, 2008 from Council for Excellence in Government web site: http://www.excelgov.org

Cournoyer, B. R., & Powers, G. T. (2002). Evidence-based social work: the quiet revolution continues. In A. R. Roberts & G. J. Greene (Eds.), *Social Workers' Desk Reference* (pp. 798-807). Oxford: Oxford University Press.

CSWE. (2001). Education policy and accreditation standards. Retrieved May 21, 2007, from Council on Social Work Education Web Site: http://www.cswe.org

Des Jarlais, D. C., Lyles, C., & Crepaz, N. (2004). Improving the reporting quality of nonrandomized evaluations of behavioral and public health interventions; the TREND statement. *American Journal of Public Health, 94*(3), 361-366.

Dore, M. M. (1999). The retail method of social work: the role of the New York School in the development of clinical practice. *Social Service Review, June*, 168-190.

Edmond, T., Megivern, D., Williams, C., Rochman, E., & Howard, M. (2006). Integrating evidence-based practice and social work field education. *Journal of Social Work Education, 42*(2), 377-396.

Enkin, M., Keirse, M.J.N.C., Neilson, J., Crowther, C., Duley, L., Hodnett, E., Hofmeyr, J. (2000). *A guide to Effective Care in Pregnancy and Childbirth*. Oxford Press. Retrieved April 11, 2008 from Childbirth Connection website: http://www.childbirthconnection.org.

Fischer, J. (1978). *Effective Casework Practice: an Eclectic Approach*. New York: McGraw Hill

Fischer, J. (1979) Isn't Casework Effective Yet? *Social Work*, 24(3), 245-247

Flexner, A. (1915). Is Social Work a Profession? Proceedings from Conference on Charities and Corrections. Retrieved April 11, 2008 from University of Michigan website: http://quod.lib.umich.edu/n/ncosw

Franklin, C. (October 16-18, 2006). *Teaching evidence-based practices: strategies for implementation*. Paper presented at the meeting of the Improving the Teaching of Evidence-Based Practice. Austin, TX.

Friedman, R. S. & Friedman, R. C. (1992) Research Funding. In Clark, B. R. & Neave, G. (Eds). *The Encyclopedia of Higher Education*. (1453-1464). Oxford: Pergamon Press

Gambrill, E. (2006 October 16-18). Transparency as the route to evidence-informed professional education. Paper presented at the meeting of the Improving the Teaching of Evidence-Based Practice. Austin, TX.

Gambrill, E. D. (2003). Evidence-based practice: sea change or the emperor's new clothes? *Journal of Social Work Education, 39*(1), 3-23.

Gelles, R. J. (2007). The Penn Approach: 100 years of social work education. Retrieved April 25, 2007, from The Penn Approach Web Site: http://www.sp2.upenn.edu/about/approach/index.html

Germain, C. (1970). Casework and science: a historical encounter. In R. Roberts & R. Nee (Eds.), *Theories of Social Casework* (pp. 3-32). Chicago: The University of Chicago Press.

Gibbs, L. (2007). Applying research to making life-affecting judgments and decisions. *Research on Social Work Practice, 17*(1), 143-150.

Gioia, D. (2007). Using an organizational change model to qualitatively understand practitioner adoption of evidence-based practice in community mental health. *Best Practices in Mental Health, 3*(1).

Glasby, J., & Beresford, P. (2006). Who knows best? evidence-based practice and the service user contribution. *Critical Social Policy, 26*(1), 268-284.

Gorski, P. & Clark, C. (2001). Multicultural education and the digital divide: focus on race. *Perspectives on Technology, 3*(4), 15-25.

Gray, M., & McDonald, C. (2006). Pursuing good practice? the limits of evidence-based practice. *Journal of Social Work, 6*(1), 7-20.

Green, S. B. (1991). How many subjects does it take to do a regression analysis? Multivariate *Behavioral Research, 26*(3) 499-510).

Guide for Child Welfare Administrators on Evidence Based Practice (2005). National Association of Public Child Welfare Administrators. Retrieved on April 11, 2008 from the American Public Human Services Association website: http://www.aphsa.org.

Heineman, M. B. (1981). The obsolete scientific imperative in social work research. *Social Service Review, 55*(3), 371-397.

Horwath, J., & Thurlow, C. (2004). Preparing students for evidence-based child and family field social work: an experiential learning approach. *Social Work Education, 23*(1), 7-24.

Howard, M. O., McMillen, C. J., & Pollio, D. E. (2003). Teaching evidence-based practice: toward a new paradigm for social work education. *Research on Social Work Practice, 13*(2), 234-259.

Humphries, B. (2003). What else counts as evidence in evidence-based social work? *Social Work Education, 22*(1), 82-92.

Iles, R., & Davidson, M. (2006). Evidence based practice: a survey of physiotherapists' current practice. *Physiotherapy Research International, 11*(2), 93-103.

Institute Of Medicine Of The National Academies. (2007). *Roundtable on evidence-based medicine*. Retrieved November 4, 2007, from Institute of Medicine of the National Academies Web Site: http://www.iom.edu/CMS/28312/RT-EBM.aspx

Jenson, J. M. (2005). Connecting science to intervention: advances, challenges, and the promise of evidence-based practice. *Social Work Research, 29*(3), 131-135.

Jette, D. U., Bacon, K., Batty, C., Carlson, M., Ferland, A., Hemingway, R. D., et al. (2003). Evidence-based practice: beliefs, attitudes, knowledge, and behaviors of physical therapists. *Physical Therapy, 83*(9), 786-805.

Kirk, S. A., & Reid, W. J. (2002). *Science and Social Work: A Critical Appraisal.* New York: Columbia University Press.

Klein, W. C., & Bloom, M. (1994). Social work as applied social science: a historical analysis. *Social Work, 39*(4), 421-431.

Kuh, G. D. (2004). The National Survey of Student Engagement: conceptual framework and overview of psychometric properties. Retrieved April 27, 2007, from The National Survey of Student Engagement Web Site: http://nsse.iub.edu/2004_annual_report/pdf/2004_conceptual_framework.pdf

Lederman, D. (2005, December 16). Graduated by not literate. *Inside Higher Ed*. Retrieved January 10, 2007 from http://www.insidehighered.com/news/2005/12/16/literacy

Lederman, D. (2006 September 26). The Spelling plan. *Inside Higher Ed.* Retrieved September 26, 2007 from http://www.insidehighered.com

Leighninger, L. (Ed.). (2000). *Creating a new profession: the beginnings of social work education in the United States.* Alexandria, VA: Council on Social Work Education.

Maxwell, S. E. (2000). Sample size and multiple regression analysis. *Psychological Methods, 5*(4), 434-458.

Mayo-Wilson, E. (2007). Reporting implementation in randomized trials: proposed additions to the Consolidated Standards of Reporting Trials statement. *American Journal of Public Health, 97*(4), 630-633.

McColl, A., Smith, H., White, P., & Field, J. (1998). General practitioners' perceptions of the route to evidence based medicine: a questionnaire survey. British Medical Journal, 316, 361-365. Retrieved August 30, 2007, from British Medical Journal Web Site: http://bmj.com/cgi/content/full/316/7128/361

McGuire, D. (2006). *Attitude and Barriers to evidence-based social work.* Unpublished doctoral dissertation, University of Houston. . (Publication No. AAT 3207044).

McNeill, T. (2006). Evidence-based practice in an age of relativism: toward a model for practice. *Social Work, 51*(2), 147-156.

Miller, M. A. (2006, September 22). The legitimacy of assessment. The Chronicle of Higher Education. Retrieved January 3, 2007 from http://chronicle.com

Morales, A. T., Sheafor, B. W., & Scott, M. E. (2007). *Social work: a profession of many faces* (11th ed.). Boston: Pearson Education, Inc.

Mullen, E. J. & Dumpson, J. R. (1972). *Evaluation of Social Intervention*. San Francisco: Jossey-Bass Inc.

Mullen, E. J., Bellamy, J. L., Bledsoe, S. E., & Francois, J. J. (2006 October). Teaching evidence-based practice. Paper presented at the meeting of the Symposium on Improving the Teaching of Evidence-based Practice. Austin, TX.

NASW. (1999). Code of Ethics. Retrieved May 21, 2007, from National Association of Social Workers Web Site: http://www.socialworkers.org/pubs/code/pubs.asp

NASW (2004). NASW National survey of licensed social workers. Retrieved February 29, 2007 from NASW web site: http://workforce.socialworkers.org/studies/nasw_06_execsummary.pdf

National Assessment of Adult Literacy. (2006). National Assessment of Adult Literacy. Retrieved January 10, 2007, from National Center for Education Statistics Web Site: http://nces.ed.gov/naal/

Nelson, T. D., Steel, R. G., & Mize, J. A. (2006). Practitioner attitudes toward evidence-based practice: themes and challenges. *Adm Policy Mental Health & Mental Health Services Res, 33*, 398-409.

Office of Institutional Planning and Accountability. (2006). The University of Texas System accountability and performance report 2005-2006: highlights. Retrieved July 7, 2006, from The University of Texas System Web Site: http://www.utsystem.edu/IPA/acctrpt/homepage.htm

Payne, M. (2005). *Modern social work theory* (3rd ed.). Chicago: Lyceum Books, Inc.

Proctor, E. K. (2006 October 16-18). Implementing evidence-based practice in social work education: principles, strategies, and partnerships. Paper presented at the meeting of the Improving the Teaching of Evidence-Based Practice. Austin, TX.

Reid, W. J. (1994). The empirical practice movement. *Social Service Review,* June, 165-184.

Ronen, T. (2005). Students' evidence-based practice intervention for children with oppositional defiant disorder. *Research on Social Work Practice, 15*(3), 165-179.

Rosen, A. (2003). Evidence-based social work practice: challenges and promise. *Social Work Research, 27*(4), 197-208.

Rosen, A., & Proctor, E. K. (2003). Practice guidelines and the challenge of effective practice. In A. Rosen & E. K. Proctor (Eds.), *Developing Practice Guidelines for Social Work Intervention: Issues, Methods, and Research Agenda* (pp. 1-14). New York: Columbia University Press.

Rosenthal, J. A. (2001). *Statistics and data interpretation for the helping professions.* Belmont, CA: Wadsworth.

Rubin, A., & Babbie, E. R. (2005). *Research methods for social work* (5th ed.). Belmont, CA: Brooks/Cole.

Rubin, A., & Parrish, D. (2007). Problematic phrases in the conclusions of published outcome studies: implications for evidence-based practice. *Research on Social Work Practice, 17*(3), 334-347.

Rubin, A., & Parrish, D. (2007). Views of evidence-based practice among faculty in master of social work programs: a national survey. *Research on Social Work Practice, 17*(1), 110-122.

Sackett, D. L., Straus, S. E., Richardson, W. S., Rosenberg, W., & Haynes, R. B. (2000). *Evidence-based medicine: how to practice and teach EBP* (2nd ed.). Edinburgh: Churchill Livingstone.

Schatz, M. S., Jenkins, L. E., & Sheafor, B. W. (1990). Milford redefined: a model of initial and advanced generalist social work. *Journal of Social Work Education, 26*(3), 217-231.

Scheyett, A. (2006). Danger and opportunity: challenges in teaching evidence-based practice in the social work curriculum. *Journal of Teaching in Social Work*, 26(1/2), 19-29.

Shaw, I. (2005). Practitioner research: evidence or critique? *British Journal of Social Work, 35*, 1231-1248.

Shlonsky, A., & Stern, S. B. (2006 October). Reflections on the teaching of EBP. Paper presented at the meeting of the Improving the Teaching of Evidence-Based Practice. Austin, TX.

Shoemaker, L. M. (1998). Early conflicts in social work education. *Social Service Review, (June)*, 182-191.

Siegel, D. H. (1984). Defining empirically based practice. *Social Work, July-August*, 325-331.

Stevens, M., Liabo, K., Frost, S., & Roberts, H. (2005). Using research in practice: a research information service for social care practitioners. *Child and Family Social Work, 10*, 67-75.

The National Survey of Student Engagement. (2007). Our origins and potential. Retrieved April 27, 2007, from The National Survey of Student Engagement Web Site: http://nsse.iub.edu/html/origins.cfm

Thelin, J. R. (2005). *A history of American higher education*. Baltimore: The Johns Hopkins University Press.

Thyer, B. A. (2004). Science and evidence-based social work practice. In H. E. Briggs & T. L. Rzepnicki (Eds.), *Using Evidence in Social Work Practice: Behavioral Perspectives* (pp. 74-89). Chicago, IL: Lyceum Books, Inc.

TREND. (2004). TREND. Retrieved May 24, 2007, from Transparent Reporting of Evaluations with Nonrandomized Designs Web Site: http://www.trend-statement.org

Upton, D. R., & Upton, P. M. (2005). Development of an evidence-based practice questionnaire for nurses. *Journal of Advanced Nursing*, 54(4), 454-458.

Upton, D., & Upton, P. (2005). Knowledge and use of evidence-based practice of GPs and hospital doctors. *Journal of Evaluation in Clinical Practice,* 12(3), 376-384.

Weismiller, T., Whitaker, T., & Smith, M., (2005). Practice research network III final report. Retrieved on February 29, 2008 from NASW web site: www.socialworkers.org/naswprn/survey.three/report0205.pdf.

Wilson, J.J., Mick, R., Wei, S.J., Rustgi, A. K., Markowitz, S.D., Hampshire, M., Metz, J.M. (2006). Clinical trial resources on the internet must be designed to reach underrepresented minorities. *The Cancer Journal, 12*(6), 475-481.

Witkin, S. L. (1996). If empirical practice is the answer, then what is the question? *Social Work Research, 20*(2), 69-75.

Woodard, D. B., Love, P., & Komives, S. R. (2000). The changing landscape of higher education. In (Ed.), *New Directions for Student Services* (pp. 5-12). Hoboken, New Jersey: Wiley Publishers.

Woody, J. D., D'Souza, H. J., & Dartman, R. (2006). Domaster's in social work programs teach empirically supported interventions? a survey of deans and directors. *Research on Social Work Practice,* 16(5), 469-479.

Zlotnik, J. L., & Galambos, C. (2004). Evidence-based practices in health care: social work possibilities. *Health & Social Work*, 29(4), 259-261.

BIOGRAPHICAL INFORMATION

Dr. Hamm began an academic career in 1990 with an undergraduate degree in social work. After a couple of years of practice, she earned a master's degree in social work in 1993. In 2005, she returned to graduate study to earn a PhD in social work. Current research interests are in higher education with particular interest in social work education and the equipping of master's level practitioners for careers in social work. Dr. Hamm has completed a joint study on the use of Active Learning environments in higher education, in addition to this research project. She is currently working on a collaborative research project involving spirituality in undergraduate social work education. In the fall of 2008, Dr. Hamm will begin a teaching career at Abilene Christian University as well as continue her research agenda.